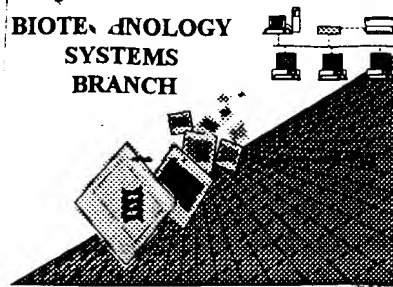


## **RAW SEQUENCE LISTING** **ERROR REPORT**

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



#3  
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The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

09/646,569

Source:

1645

Date Processed by STIC:

12/14/2000

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TECH CENTER

**THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.**

**PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

**FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.**

**FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.**

**PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**PATENTIN 3.0 e-mail help: [patin30help@uspto.gov](mailto:patin30help@uspto.gov) or phone 703-306-4119 (R. Wax)**

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:**

### **Checker Version 3.0**

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

**Checker Version 3.0 can be down loaded from the USPTO website at the following address:**

**<http://www.uspto.gov/web/offices/pac/checker>**

# Raw Sequence Listing Error Summary

## ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/646,569

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1        Wrapped Nucleics      The number/text at the end of each line "wrapped" down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2        Wrapped Aminos      The amino acid number/text at the end of each line "wrapped" down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3        Incorrect Line Length      The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4        Misaligned Amino Acid Numbering      The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5        Non-ASCII      This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.  
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6        Variable Length      Sequence(s)        contain n's or Xaa's which represented more than one residue.  
As per the rules, each n or Xaa can only represent a single residue.  
Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.
- 7        PatentIn ver. 2.0 "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s)       . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 8        Skipped Sequences (OLD RULES)      Sequence(s)        missing. If intentional, please use the following format for each skipped sequence.  
(2) INFORMATION FOR SEQ ID NO:X:  
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")  
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:  
This sequence is intentionally skipped  
  
Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9        Skipped Sequences (NEW RULES)      Sequence(s)        missing. If intentional, please use the following format for each skipped sequence.  
<210> sequence id number  
<400> sequence id number  
000
- 10        Use of n's or Xaa's (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing  
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.  
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents
- 11        Use of <213>Organism (NEW RULES)      Sequence(s)        are missing this mandatory field or its response.
- 12        Use of <220>Feature (NEW RULES)      Sequence(s)        are missing the <220>Feature and associated headings.  
Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"  
Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
- 13        PatentIn ver. 2.0 "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).  
Instead, please use "File Manager" or any other means to copy file to floppy disk.

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1645

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PAGE: 1

# RAW SEQUENCE LISTING

## PATENT APPLICATION US/09/646,569

DATE: 12/14/2000  
TIME: 10:51:07

Input Set: I646569.RAW

This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

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1 <110> metaGen Gesellschaft fr Genomforschung mbH  
2 <120> Menschliche Nukleinsuresequenzen aus Brustgewebe  
3 <130> 51572AWOM1XX24-P  
4 <140> US/09/646,569  
5 <141> 2000-09-20  
6 <160> 209

use English for a  
U.S. application

### ERRORED SEQUENCES FOLLOW

Only one space between amino acids. Per 1.823  
of sequence rules "... each line should contain  
no more than 72 characters."

global error

All text should be visible on page.

7	<210>	77																
8	<211>	366																
9	<212>	PRT																
10	<213>	homo sapiens																
11	<400>	77																
12		Ile	Ala	Ser	Ala	Arg	Leu	Glu	Glu	Val	Thr	Gly	Lys	Leu	Gln	Val	Ala	
13		1				5					10				15			
14		Arg	Asn	Leu	Ile	Met	Arg	Gly	Thr	Glu	Met	Cys	Pro	Lys	Ser	Glu	Asn	
15					20					25					30			
16		Val	Trp	Leu	Glu	Ala	Ala	Arg	Leu	Gln	Pro	Gly	Asp	Thr	Ala	Lys	Ala	
17				35					40				45					
18		Val	Val	Ala	Gln	Ala	Val	Arg	His	Leu	Pro	Gln	Ser	Val	Arg	Ile	Tyr	
19			50					55				60						
20		Ile	Arg	Ala	Ala	Glu	Leu	Glu	Thr	Asp	Ile	Arg	Ala	Lys	Lys	Arg	Val	
21		65				70				75							8	
22		Leu	Arg	Lys	Ala	Leu	Glu	His	Val	Pro	Asn	Ser	Val	Arg	Leu	Trp	Lys	
23					85					90				95				
24		Ala	Ala	Val	Glu	Leu	Glu	Glu	Pro	Glu	Asp	Ala	Arg	Ile	Met	Leu	Ser	
25					100					105				110				
26		Arg	Ala	Val	Glu	Cys	Cys	Pro	Thr	Ser	Val	Glu	Leu	Trp	Leu	Ala	Leu	
27				115						120				125				
28		Ala	Arg	Leu	Glu	Thr	Tyr	Glu	Asn	Ala	Arg	Lys	Val	Leu	Asn	Lys	Ala	
29			130					135				140						
30		Arg	Glu	Asn	Ile	Pro	Thr	Asp	Arg	His	Ile	Trp	Ile	Thr	Ala	Ala	Lys	
31			145				150					155					16	
32		Leu	Glu	Glu	Ala	Asn	Gly	Asn	Thr	Gln	Met	Val	Glu	Lys	Ile	Ile	Asn	
33					165					170				175				
34		Arg	Ala	Ile	Thr	Ser	Leu	Arg	Ala	Asn	Gly	Val	Glu	Ile	Asn	Arg	Glu	
35					180					185				190				
36		Gln	Trp	Ile	Gln	Asp	Ala	Glu	Glu	Cys	Asp	Arg	Ala	Gly	Ser	Val	Ala	
37				195				200					205					
38		Thr	Cys	Gln	Ala	Val	Met	Arg	Ala	Val	Ile	Gly	Ile	Gly	Ile	Glu	Glu	
39			210					215					220					

Per 1.822(d)(2), "... a space provided between each amino acid"

PAGE: 2

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07

Input Set: I646569.RAW

*same*

40	Glu	Asp	Arg	Lys	His	Thr	Trp	Met	Glu	Asp	Ala	Asp	Ser	Cys	Val	Al
41	225					230					235					24
42	His	Asn	Ala	Leu	Glu	Cys	Ala	Arg	Ala	Ile	Tyr	Ala	Tyr	Ala	Leu	Gl
<b>E--&gt; 43</b>					<b>245</b>					<b>250</b>					<b>255</b>	
44	Val	Phe	Pro	Ser	Lys	Lys	Ser	Val	Trp	Leu	Arg	Ala	Ala	Tyr	Phe	Gl
45				260					265					270		
46	Lys	Asn	His	Gly	Thr	Arg	Glu	Ser	Leu	Glu	Ala	Leu	Leu	Gln	Arg	Al
47			275					280					285			
48	Val	Ala	His	Cys	Pro	Lys	Ala	Glu	Val	Leu	Trp	Leu	Met	Gly	Ala	Ly
49		290					295				300					
50	Ser	Lys	Trp	Leu	Ala	Gly	Asp	Val	Pro	Ala	Ala	Arg	Ser	Ile	Leu	Al
51	305					310					315					32
52	Leu	Ala	Phe	Gln	Ala	Asn	Pro	Asn	Ser	Glu	Glu	Ile	Trp	Leu	Ala	Al
<b>E--&gt; 53</b>					<b>325</b>					<b>330</b>					<b>335</b>	
54	Val	Lys	Leu	Glu	Ser	Glu	Asn	Asp	Glu	Tyr	Glu	Arg	Ala	Arg	Arg	Le
55				340					345					350		
56	Leu	Ala	Lys	Ala	Arg	Thr	Val	Pro	Pro	Pro	Pro	Gly	Cys	Ser		
57			355					360					365			

58	<210>	85														
59	<211>	116														
60	<212>	PRT														
61	<213>	homo sapiens														
62	<400>	85														
63	Gly	Thr	Arg	His	Pro	Leu	Ser	Leu	Ser	His	Lys	Pro	Ala	Lys	Lys	Il
64	1				5					10					15	
65	Asp	Val	Ala	Arg	Val	Thr	Phe	Asp	Leu	Tyr	Lys	Leu	Asn	Pro	Gln	As
66				20					25					30		
67	Phe	Ile	Gly	Cys	Leu	Asn	Val	Lys	Ala	Thr	Phe	Tyr	Asp	Thr	Tyr	Se
68			35					40					45			
69	Leu	Ser	Tyr	Asp	Leu	His	Cys	Cys	Gly	Ala	Lys	Arg	Ile	Met	Lys	Gl
70		50					55					60				
71	Ala	Phe	Arg	Trp	Ala	Leu	Phe	Ser	Met	Gln	Ala	Thr	Gly	His	Val	Le
72	65					70				75						8
73	Leu	Gly	Thr	Ser	Cys	Tyr	Leu	Gln	Gln	Leu	Leu	Asp	Ala	Thr	Glu	Gl
<b>E--&gt; 74</b>					<b>85</b>					<b>90</b>					<b>95</b>	
75	Gly	Gln	Pro	Pro	Lys	Gly	Lys	Ala	Ser	Ser	Leu	Ile	Pro	Thr	Cys	Le
76				100					105					110		
77	Lys	Ile	Leu	Gln												
78			115													

79	<210>	89														
80	<211>	411														
81	<212>	PRT														
82	<213>	homo sapiens														
83	<400>	89														
84	Leu	Ala	Thr	His	Ser	Pro	Gln	Lys	Ser	His	Gln	Cys	Ala	His	Cys	Gl
85	1				5					10					15	
86	Lys	Thr	Phe	Asn	Arg	Lys	Asp	His	Leu	Lys	Asn	His	Leu	Gln	Thr	Hi
87				20					25					30		

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07

Input Set: I646569.RAW

*Same*

88	Asp	Pro	Asn	Lys	Met	Ala	Phe	Gly	Cys	Glu	Glu	Cys	Gly	Lys	Lys	Ty
89			35					40					45			
90	Asn	Thr	Met	Leu	Gly	Tyr	Lys	Arg	His	Leu	Ala	Leu	His	Ala	Ala	Se
91		50					55					60				
92	Ser	Gly	Asp	Leu	Thr	Cys	Gly	Val	Cys	Ala	Leu	Glu	Leu	Gly	Ser	Th
93	65					70					75					8
94	Glu	Val	Leu	Leu	Asp	His	Leu	Lys	Ala	His	Ala	Glu	Glu	Lys	Pro	Pr
<b>E--&gt;</b>	<b>95</b>				<b>85</b>					<b>90</b>					<b>95</b>	
96	Ser	Gly	Thr	Lys	Glu	Lys	Lys	His	Gln	Cys	Asp	His	Cys	Glu	Arg	Cy
97				100					105					110		
98	Phe	Tyr	Thr	Arg	Lys	Asp	Val	Arg	Arg	His	Leu	Val	Val	His	Thr	Gl
99			115					120					125			
100	Cys	Lys	Asp	Phe	Leu	Cys	Gln	Phe	Cys	Ala	Gln	Arg	Phe	Gly	Arg	Ly
101		130					135					140				
102	Asp	His	Leu	Thr	Arg	His	Thr	Lys	Lys	Thr	His	Ser	Gln	Glu	Leu	Me
103	145					150					155					16
104	Lys	Glu	Ser	Leu	Gln	Thr	Gly	Asp	Leu	Leu	Ser	Thr	Phe	His	Thr	Il
<b>E--&gt;</b>	<b>105</b>				<b>165</b>					<b>170</b>					<b>175</b>	
106	Ser	Pro	Ser	Phe	Gln	Leu	Lys	Ala	Ala	Ala	Leu	Pro	Pro	Phe	Pro	Le
107			180					185					190			
108	Gly	Ala	Ser	Ala	Gln	Asn	Gly	Leu	Ala	Ser	Ser	Leu	Pro	Ala	Glu	Va
109			195					200					205			
110	His	Ser	Leu	Thr	Leu	Ser	Pro	Pro	Glu	Gln	Ala	Ala	Gln	Pro	Met	Gl
111		210					215					220				
112	Pro	Leu	Pro	Glu	Ser	Leu	Ala	Ser	Leu	His	Pro	Ser	Val	Ser	Pro	Gl
113	225					230					235					24
114	Ser	Pro	Pro	Pro	Pro	Leu	Pro	Asn	His	Lys	Tyr	Asn	Thr	Thr	Ser	Th
<b>E--&gt;</b>	<b>115</b>				<b>245</b>					<b>250</b>					<b>255</b>	
116	Ser	Tyr	Ser	Pro	Leu	Ala	Ser	Leu	Pro	Leu	Lys	Ala	Asp	Thr	Lys	Gl
117			260					265						270		
118	Phe	Cys	Asn	Ile	Ser	Leu	Phe	Glu	Asp	Leu	Pro	Leu	Gln	Glu	Pro	Gl
119			275					280					285			
120	Ser	Pro	Gln	Lys	Leu	Asn	Pro	Gly	Phe	Asp	Leu	Ala	Lys	Gly	Asn	Al
121		290					295					300				
122	Gly	Lys	Val	Asn	Leu	Pro	Lys	Glu	Leu	Pro	Ala	Asp	Ala	Val	Asn	Le
123	305					310					315					32
124	Thr	Ile	Pro	Ala	Ser	Leu	Asp	Leu	Ser	Pro	Leu	Leu	Gly	Phe	Trp	Gl
<b>E--&gt;</b>	<b>125</b>				<b>325</b>					<b>330</b>					<b>335</b>	
126	Leu	Pro	Pro	Pro	Ala	Thr	Gln	Asn	Thr	Phe	Gly	Asn	Ser	Thr	Leu	Al
127			340					345					350			
128	Leu	Gly	Pro	Gly	Glu	Ser	Leu	Pro	His	Arg	Leu	Ser	Cys	Leu	Gly	Gl
129			355					360					365			
130	Gln	Gln	Gln	Glu	Pro	Pro	Leu	Ala	Met	Gly	Thr	Val	Ser	Leu	Gly	Gl
131		370					375					380				
132	Leu	Pro	Leu	Pro	Pro	Ile	Pro	His	Val	Phe	Ser	Ala	Gly	Thr	Gly	Se
133	385					390					395					40
134	Ala	Ile	Leu	Pro	His	Phe	His	His	Ala	Phe	Arg					
<b>E--&gt;</b>	<b>135</b>				<b>405</b>					<b>410</b>						

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07

Input Set: I646569.RAW

*same*

137	<211>	314															
138	<212>	PRT															
139	<213>	homo sapiens															
140	<400>	90															
141		Lys	Arg	Cys	Gln	Arg	Lys	Gln	Pro	Leu	Arg	Gly	Ile	Gly	Ile	Leu	Ly
142		1				5					10					15	
143		Gln	Ala	Ile	Asp	Lys	Met	Gln	Met	Asn	Thr	Asn	Gln	Leu	Thr	Ser	Il
144					20					25					30		
145		His	Ala	Asp	Leu	Cys	Gln	Leu	Cys	Leu	Leu	Ala	Lys	Cys	Phe	Lys	Pr
146				35					40					45			
147		Ala	Leu	Pro	Tyr	Leu	Asp	Val	Asp	Met	Met	Asp	Ile	Cys	Lys	Glu	As
148			50					55					60				
149		Gly	Ala	Tyr	Asp	Ala	Lys	His	Phe	Leu	Cys	Tyr	Tyr	Tyr	Tyr	Gly	Gl
150		65					70					75					8
151		Met	Ile	Tyr	Thr	Gly	Leu	Lys	Asn	Phe	Glu	Arg	Ala	Leu	Tyr	Phe	Ty
E--> 152						85					90					95	
153		Glu	Gln	Ala	Ile	Thr	Thr	Pro	Ala	Met	Ala	Val	Ser	His	Ile	Met	Le
154					100					105					110		
155		Glu	Ser	Tyr	Lys	Lys	Tyr	Ile	Leu	Val	Ser	Leu	Ile	Leu	Leu	Gly	Ly
156					115					120				125			
157		Val	Gln	Gln	Leu	Pro	Lys	Tyr	Thr	Ser	Gln	Ile	Val	Gly	Arg	Phe	Il
158			130						135				140				
159		Lys	Pro	Leu	Ser	Asn	Ala	Tyr	His	Glu	Leu	Ala	Gln	Val	Tyr	Ser	Th
160		145					150					155					16
161		Asn	Asn	Pro	Ser	Glu	Leu	Arg	Asn	Leu	Val	Asn	Lys	His	Ser	Glu	Th
E--> 162						165					170					175	
163		Phe	Thr	Arg	Asp	Asn	Asn	Met	Gly	Leu	Val	Lys	Gln	Cys	Leu	Ser	Se
164					180					185					190		
165		Leu	Tyr	Lys	Lys	Asn	Ile	Gln	Arg	Leu	Thr	Lys	Thr	Phe	Leu	Thr	Le
166					195				200					205			
167		Ser	Leu	Gln	Asp	Met	Ala	Ser	Arg	Val	Gln	Leu	Ser	Gly	Pro	Gln	Gl
168			210						215				220				
169		Ala	Glu	Lys	Tyr	Val	Leu	His	Met	Ile	Glu	Asp	Gly	Glu	Ile	Phe	Al
170		225					230					235					24
171		Ser	Ile	Asn	Gln	Lys	Asp	Gly	Met	Val	Ser	Phe	His	Asp	Asn	Pro	Gl
E--> 172						245					250					255	
173		Lys	Tyr	Asn	Asn	Pro	Ala	Met	Leu	His	Asn	Ile	Asp	Gln	Glu	Met	Le
174					260					265					270		
175		Lys	Cys	Ile	Glu	Leu	Asp	Glu	Arg	Leu	Lys	Ala	Met	Asp	Gln	Glu	Il
176					275				280					285			
177		Thr	Val	Asn	Pro	Gln	Phe	Val	Gln	Lys	Ser	Met	Gly	Ser	Gln	Glu	As
178			290						295				300				
179		Asp	Ser	Gly	Asn	Lys	Pro	Ser	Ser	Tyr	Ser						
180		305					310										

181 <210> 92  
 182 <211> 201  
 183 <212> PRT  
 184 <213> homo sapiens  
 185 <400> 92

PAGE: 5

*same*

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

DATE: 12/14/2000  
 TIME: 09:51:07

Input Set: **I646569.RAW**

	186	Met	Asp	Leu	Ser	Leu	Leu	Trp	Val	Leu	Leu	Pro	Leu	Val	Thr	Met	Al
	187	1				5					10					15	
	188	Trp	Gly	Gln	Tyr	Gly	Asp	Tyr	Gly	Tyr	Pro	Tyr	Gln	Gln	Tyr	His	As
	189				20					25					30		
	190	Tyr	Ser	Asp	Asp	Gly	Trp	Val	Asn	Leu	Asn	Arg	Gln	Gly	Phe	Ser	Ty
	191			35					40					45			
	192	Gln	Cys	Pro	Gln	Gly	Gln	Val	Ile	Val	Ala	Val	Arg	Ser	Ile	Phe	Se
	193		50					55					60				
	194	Lys	Lys	Glu	Gly	Ser	Asp	Arg	Gln	Trp	Asn	Tyr	Ala	Cys	Met	Pro	Th
	195	65					70				75						8
	196	Pro	Gln	Ser	Leu	Gly	Glu	Pro	Thr	Glu	Cys	Trp	Trp	Glu	Glu	Ile	As
<b>E--&gt;</b>	<b>197</b>					<b>85</b>					<b>90</b>					<b>95</b>	
	198	Arg	Ala	Gly	Met	Glu	Trp	Tyr	Gln	Thr	Cys	Ser	Asn	Asn	Gly	Leu	Va
	199				100						105				110		
	200	Ala	Gly	Phe	Gln	Ser	Arg	Tyr	Phe	Glu	Ser	Val	Leu	Asp	Arg	Glu	Tr
	201			115						120				125			
	202	Gln	Phe	Tyr	Cys	Cys	Arg	Tyr	Ser	Lys	Arg	Cys	Pro	Tyr	Ser	Cys	Tr
	203		130							135				140			
	204	Leu	Thr	Thr	Glu	Tyr	Pro	Gly	His	Tyr	Gly	Glu	Glu	Met	Asp	Met	Il
	205	145					150					155					16
	206	Ser	Tyr	Asn	Tyr	Asp	Tyr	Tyr	Ile	Arg	Gly	Ala	Thr	Thr	Thr	Phe	Se
<b>E--&gt;</b>	<b>207</b>					<b>165</b>					<b>170</b>					<b>175</b>	
	208	Ala	Val	Glu	Arg	Asp	Arg	Gln	Trp	Lys	Phe	Ile	Met	Cys	Arg	Met	Th
	209				180					185					190		
	210	Glu	Tyr	Asp	Cys	Glu	Phe	Ala	Asn	Val							
	211			195					200								

	212	<210>	93														
	213	<211>	247														
	214	<212>	PRT														
	215	<213>	homo sapiens														
	216	<400>	93														
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	218	1				5					10					15	
	219	Ser	Pro	Ile	Pro	Pro	Val	Pro	His	Pro	Arg	Ser	Val	Ile	Gln	Gln	Al
	220				20						25				30		
	221	Glu	Glu	Lys	Leu	His	Thr	Pro	Gln	Lys	Arg	Leu	Met	Thr	Pro	Trp	Gl
	222			35						40				45			
	223	Glu	Ser	Asn	Val	Met	Gln	Asp	Lys	Asp	Ala	Pro	Ser	Pro	Lys	Pro	Ar
	224		50					55					60				
	225	Leu	Ser	Pro	Arg	Glu	Thr	Ile	Phe	Gly	Lys	Ser	Glu	His	Gln	Asn	Se
	226	65					70					75					8
	227	Ser	Pro	Thr	Cys	Gln	Glu	Asp	Glu	Glu	Asp	Val	Arg	Tyr	Asn	Ile	Va
<b>E--&gt;</b>	<b>228</b>					<b>85</b>					<b>90</b>					<b>95</b>	
	229	His	Ser	Leu	Pro	Pro	Asp	Ile	Asn	Asp	Thr	Glu	Pro	Val	Thr	Met	Il
	230				100					105					110		
	231	Phe	Met	Gly	Tyr	Gln	Gln	Ala	Glu	Asp	Ser	Glu	Glu	Asp	Lys	Lys	Ph
	232			115						120				125			
	233	Leu	Thr	Gly	Tyr	Asp	Gly	Ile	Ile	His	Ala	Glu	Leu	Val	Val	Ile	As
	234			130					135					140			

*same*

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**RAW SEQUENCE LISTING**  
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*same*

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	237	Pro	Ile	Ala	Pro	His	Ser	Gln	Val	Tyr	Gln	Pro	Ala	Lys	Pro	Thr	Pr
<b>E--&gt;</b>	<b>238</b>					<b>165</b>					<b>170</b>					<b>175</b>	
	239	Leu	Pro	Arg	Lys	Arg	Ser	Glu	Ala	Ser	Pro	His	Glu	Asn	Thr	Asn	Hi
	240				180						185				190		
	241	Lys	Ser	Pro	His	Lys	Asn	Ser	Ile	Ser	Leu	Lys	Glu	Gln	Glu	Glu	Se
	242			195					200					205			
	243	Leu	Gly	Ser	Pro	Val	His	His	Ser	Pro	Phe	Asp	Ala	Gln	Thr	Thr	Gl
	244		210					215					220				
	245	Asp	Gly	Thr	Glu	Asp	Pro	Ser	Leu	Thr	Ala	Leu	Arg	Met	Arg	Met	Al
	246	225					230					235					24
	247	Lys	Leu	Gly	Lys	Lys	Val	Ile									
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*same*

	249	<210>	95														
	250	<211>	188														
	251	<212>	PRT														
	252	<213>	homo sapiens														
	253	<400>	95														
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	255	1				5					10					15	
	256	Ser	Arg	Asp	Thr	Ile	Asp	Tyr	Leu	Leu	Ser	Lys	Asn	Gly	Ser	Gly	As
	257			20						25					30		
	258	Ala	Ile	Ile	Ile	Val	Val	Gly	Gly	Ala	Ala	Glu	Ser	Leu	Ser	Ser	Me
	259			35					40					45			
	260	Pro	Gly	Lys	Asn	Ala	Val	Thr	Leu	Arg	Asn	Arg	Lys	Gly	Phe	Val	Ly
	261		50					55					60				
	262	Leu	Ala	Leu	Arg	His	Gly	Ala	Asp	Leu	Val	Pro	Ile	Tyr	Ser	Phe	Gl
	263	65					70					75					8
	264	Glu	Asn	Glu	Val	Tyr	Lys	Gln	Val	Ile	Phe	Glu	Glu	Gly	Ser	Trp	Gl
<b>E--&gt;</b>	<b>265</b>					<b>85</b>					<b>90</b>					<b>95</b>	
	266	Arg	Trp	Val	Gln	Lys	Lys	Phe	Gln	Lys	Tyr	Ile	Gly	Phe	Ala	Pro	Cy
	267			100						105					110		
	268	Ile	Phe	His	Gly	Arg	Gly	Leu	Phe	Ser	Ser	Asp	Thr	Trp	Gly	Leu	Va
	269			115					120					125			
	270	Pro	Tyr	Ser	Lys	Pro	Ile	Thr	Thr	Val	Val	Gly	Glu	Pro	Ile	Thr	Il
	271		130					135					140				
	272	Pro	Lys	Leu	Glu	His	Pro	Thr	Gln	Gln	Asp	Ile	Asp	Leu	Tyr	His	Th
	273	145					150					155					16
	274	Met	Tyr	Met	Glu	Ala	Leu	Val	Lys	Leu	Phe	Asp	Lys	His	Lys	Thr	Ly
<b>E--&gt;</b>	<b>275</b>					<b>165</b>					<b>170</b>					<b>175</b>	
	276	Phe	Gly	Leu	Pro	Glu	Thr	Glu	Val	Leu	Glu	Val	Asn				
	277				180					185							

278 <210> 96  
 279 <211> 290  
 280 <212> PRT  
 281 <213> homo sapiens  
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*same*



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**RAW SEQUENCE LISTING**  
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*same*

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285	Pro	Arg	Ile	Lys	Ile	Ser	Lys	Thr	Ser	Val	Asp	Gly	Asp	Pro	His	Ph
286				20					25					30		
287	Val	Val	Asp	Phe	Pro	Leu	Ser	Arg	Leu	Thr	Val	Cys	Phe	Asn	Ile	As
288			35					40					45			
289	Gly	Gln	Pro	Gly	Asp	Ile	Leu	Arg	Leu	Val	Ser	Asp	His	Arg	Asp	Se
290		50					55					60				
291	Gly	Val	Thr	Val	Asn	Gly	Glu	Leu	Ile	Gly	Ala	Pro	Ala	Pro	Pro	As
292	65					70					75					8
293	Gly	His	Lys	Lys	Gln	Arg	Thr	Tyr	Leu	Arg	Thr	Ile	Thr	Ile	Leu	Il
<b>E--&gt; 294</b>					<b>85</b>					<b>90</b>					<b>95</b>	
295	Asn	Lys	Pro	Glu	Arg	Ser	Tyr	Leu	Glu	Ile	Thr	Pro	Ser	Arg	Val	Il
296				100					105					110		
297	Leu	Asp	Gly	Gly	Asp	Arg	Leu	Val	Leu	Pro	Cys	Asn	Gln	Ser	Val	Va
298			115					120					125			
299	Val	Gly	Ser	Trp	Gly	Leu	Glu	Val	Ser	Val	Ser	Ala	Asn	Ala	Asn	Va
300		130					135					140				
301	Thr	Val	Thr	Ile	Gln	Gly	Ser	Ile	Ala	Phe	Val	Ile	Leu	Ile	His	Le
302	145					150					155					16
303	Tyr	Lys	Lys	Pro	Ala	Pro	Phe	Gln	Arg	His	His	Leu	Gly	Phe	Tyr	Il
<b>E--&gt; 304</b>					<b>165</b>					<b>170</b>					<b>175</b>	
305	Ala	Asn	Ser	Glu	Gly	Leu	Ser	Ser	Asn	Cys	His	Gly	Leu	Leu	Gly	Gl
306				180					185					190		
307	Phe	Leu	Asn	Gln	Asp	Ala	Arg	Leu	Thr	Glu	Asp	Pro	Ala	Gly	Pro	Se
308			195					200					205			
309	Gln	Asn	Leu	Thr	His	Pro	Leu	Leu	Leu	Gln	Val	Gly	Glu	Gly	Pro	Gl
310		210					215					220				
311	Ala	Val	Leu	Thr	Val	Lys	Gly	His	Gln	Val	Pro	Val	Val	Trp	Lys	Gl
312	225					230					235					24
313	Arg	Lys	Ile	Tyr	Asn	Gly	Glu	Glu	Gln	Ile	Asp	Cys	Trp	Phe	Ala	Ar
<b>E--&gt; 314</b>					<b>245</b>					<b>250</b>					<b>255</b>	
315	Asn	Asn	Ala	Ala	Lys	Leu	Ile	Asp	Gly	Glu	Tyr	Lys	Asp	Tyr	Leu	Al
316				260					265					270		
317	Ser	His	Pro	Phe	Asp	Thr	Gly	Met	Thr	Leu	Gly	Gln	Gly	Met	Ser	Ar
318			275					280					285			
319	Glu	Leu														
320			290													

321 <210> 100  
 322 <211> 98  
 323 <212> PRT  
 324 <213> homo sapiens  
 325 <400> 100

*same*

326	Met	Gly	Asn	Lys	Glu	Pro	Gly	Ser	His	Gly	His	Arg	Ser	Asp	Ala	As
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328	Pro	Ser	Arg	Phe	Ser	Pro	Val	Leu	Pro	Pro	Ala	Val	Gln	Leu	Gly	Va
329			20					25					30			
330	Trp	Arg	Glu	Glu	Gly	Arg	Gly	Gly	Ser	Cys	Pro	Phe	Ser	Trp	Gly	Ar
331			35					40					45			

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**RAW SEQUENCE LISTING**  
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	334	Gly	Leu	Gly	Glu	Lys	Thr	Met	Glu	Arg	Gly	Pro	Ala	Lys	Glu	Asn	Ar
	335	65					70					75					8
	336	Glu	Glu	Val	Ser	Gly	Leu	Ile	Ser	Leu	Leu	Ser	Arg	Cys	Ser	Gly	Se
E-->	337					85					90					95	
	338	Leu	Ile														

	339	<210>	101														
	340	<211>	117														
	341	<212>	PRT														
	342	<213>	homo sapiens														
	343	<400>	101														
	344	Met	Gly	Lys	Gly	Leu	Gly	Glu	Asp	Gly	Gln	Gln	Arg	Ala	Arg	Glu	Se
	345	1				5					10					15	
	346	Trp	Thr	Ser	Gln	Arg	Arg	Arg	Pro	Gln	Gln	Val	Gln	Ser	Arg	Ala	Al
	347				20					25					30		
	348	Thr	Ser	Cys	Pro	Ala	Gly	Cys	Leu	Glu	Gly	Arg	Gly	Gln	Arg	Arg	Va
	349			35					40					45			
	350	Met	Ser	Leu	Gln	Leu	Gly	Glu	Gly	Pro	Ser	Glu	Leu	His	Val	Ala	Ph
	351		50					55					60				
	352	Ser	Gln	Arg	Glu	Gln	Glu	Gly	Arg	Ile	Gly	Arg	Glu	Asn	Asn	Gly	Gl
	353	65					70					75					8
	354	Gly	Thr	Cys	Glu	Gly	Lys	Gln	Gly	Gly	Ser	Glu	Arg	Phe	Asp	Gln	Pr
E-->	355					85					90					95	
	356	Ala	Ile	Thr	Val	Phe	Trp	Leu	Ser	Tyr	Leu	Ala	Arg	Arg	Leu	Arg	As
	357				100					105					110		
	358	Arg	Tyr	Ile	Thr	Ser											
	359				115												

	360	<210>	102														
	361	<211>	145														
	362	<212>	PRT														
	363	<213>	homo sapiens														
	364	<400>	102														
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	366	1				5					10					15	
	367	Lys	Arg	Asp	Arg	Ser	Ala	Arg	Gly	Pro	His	Pro	Ala	Pro	Leu	Gly	Gl
	368				20					25					30		
	369	Pro	Leu	Leu	Thr	Trp	Val	Ser	Leu	Arg	Leu	His	Gln	Leu	Val	Gly	Le
	370			35					40					45			
	371	Gln	Ala	Ser	Pro	Pro	Asp	Ser	Pro	His	Cys	Trp	Ala	Thr	Leu	Asn	Le
	372		50				55					60					
	373	Lys	Phe	His	Cys	Pro	Ala	Pro	Pro	Thr	Pro	Thr	Pro	Lys	Phe	Pro	Ly
	374	65					70					75					8
	375	Glu	Met	Ser	Lys	Thr	His	Ala	His	Thr	Tyr	Ile	His	Thr	Cys	Thr	Cy
E-->	376					85					90					95	
	377	Ala	His	Thr	Ser	Cys	Val	Thr	Thr	Gly	Gln	Gly	Asn	Ala	Ser	Leu	Ar
	378				100					105					110		
	379	Ile	Pro	Gly	Pro	Gly	Pro	Gly	Val	Lys	Gly	Cys	Ser	Gly	Thr	Leu	Pr

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**RAW SEQUENCE LISTING**  
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Input Set: I646569.RAW

380				115				120					125				
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382		130					135					140					
383	Pro																
384	145																
<hr/>																	
385	<210>	103															
386	<211>	197															
387	<212>	PRT															
388	<213>	homo sapiens															
389	<400>	103															
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391	1				5					10					15		
392	Gln	Asp	Ser	Arg	Ala	Trp	Thr	Trp	Gly	Lys	Gly	Leu	Leu	Trp	Asp	Se	
393				20					25					30			
394	Ala	Pro	Gln	Pro	Leu	Gly	Gly	Pro	Arg	Val	Trp	Gly	Gln	Asp	Trp	Va	
395			35					40					45				
396	Ser	Ala	Leu	Thr	His	Arg	Ile	Ser	Pro	Gly	Pro	Lys	Ala	Glu	Lys	Ly	
397		50					55					60					
398	Ser	Gly	Arg	Arg	Ser	Arg	Arg	Gln	Gly	Trp	Trp	Thr	Lys	Val	Gly	Va	
399	65					70					75					8	
400	Arg	Leu	Lys	Ser	Gly	Ser	Glu	Thr	Arg	Phe	Asp	His	Thr	His	His	Pr	
E--> 401					85					90					95		
402	Ser	Val	Pro	Pro	Gly	Gln	His	Ala	Pro	Leu	Glu	Pro	Leu	His	Arg	Le	
403				100					105					110			
404	Ile	Arg	Thr	Arg	Gln	Asn	Leu	Leu	Leu	Thr	Asn	Leu	Leu	Arg	Ala	Va	
405			115					120					125				
406	Tyr	Arg	Gly	Ile	Thr	Leu	Val	Gln	Glu	Gly	Cys	Pro	Ser	Cys	Phe	Hi	
407		130					135					140					
408	Thr	Thr	Thr	Gly	Pro	Thr	Ile	Pro	Leu	Leu	Ala	Ser	Leu	Arg	Arg	Pr	
409	145					150					155					16	
410	Arg	Asp	Pro	Gln	Lys	Pro	Gly	Glu	Lys	Glu	Ser	Trp	Pro	Leu	Val	Se	
E--> 411					165					170					175		
412	Thr	Ala	Phe	Arg	Ala	Thr	Gly	Gly	Asp	Ala	Gln	Met	Thr	Trp	Val	Ly	
413				180					185					190			
414	Gly	Leu	Ser	Gln	Thr												
415			195														
<hr/>																	
416	<210>	104															
417	<211>	152															
418	<212>	PRT															
419	<213>	homo sapiens															
420	<400>	104															
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422	1				5					10					15		
423	Gly	Phe	Met	Thr	Gly	Thr	Ile	Ser	Ser	Met	Tyr	Gln	Thr	Lys	Ala	Va	
424				20					25					30			
425	Ile	Ile	Ala	Met	Ile	Ile	Thr	Ala	Val	Val	Ser	Ile	Ser	Val	Thr	Il	
426			35					40				45					
427	Phe	Cys	Phe	Gln	Thr	Lys	Val	Asp	Phe	Thr	Ser	Cys	Thr	Gly	Leu	Ph	

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*same*

428		50					55					60				
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431	Val	Leu	Tyr	Phe	Gln	Tyr	Val	Tyr	Trp	Leu	His	Met	Leu	Tyr	Ala	Al
E--> 432					85					90					95	
433	Leu	Gly	Ala	Ile	Cys	Phe	Thr	Leu	Phe	Leu	Ala	Tyr	Asp	Thr	Gln	Le
434				100					105					110		
435	Val	Leu	Gly	Asn	Arg	Lys	His	Thr	Ile	Ser	Pro	Glu	Asp	Tyr	Ile	Th
436			115						120				125			
437	Gly	Ala	Leu	Gln	Ile	Tyr	Thr	Asp	Ile	Ile	Tyr	Ile	Phe	Thr	Phe	Va
438		130						135				140				
439	Leu	Gln	Leu	Met	Gly	Asp	Arg	Asn								
440	145					150										

*same*

441	<210>	106														
442	<211>	91														
443	<212>	PRT														
444	<213>	homo sapiens														
445	<400>	106														
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447	1				5					10					15	
448	Leu	Phe	Lys	Ser	Ile	Leu	Asn	Trp	Leu	Pro	Ser	Phe	Lys	Leu	Asn	Gl
449				20					25					30		
450	Thr	Leu	Lys	Ala	Trp	Ser	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	His	Gl
451			35					40					45			
452	Asn	Tyr	Glu	Arg	Ala	Pro	Ala	Gln	Gln	Gly	Leu	Ser	Arg	Ser	Leu	Pr
453		50					55					60				
454	Pro	Pro	Leu	Pro	Val	Pro	Gln	Ile	Trp	Pro	Leu	Leu	Arg	Lys	Ile	Ar
455	65					70					75					8
456	Thr	Ala	Thr	Gly	Pro	Ser	Glu	Pro	Lys	Pro	Thr					
E--> 457					85					90						

*same*

458	<210>	108														
459	<211>	471														
460	<212>	PRT														
461	<213>	homo sapiens														
462	<400>	108														
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464	1				5					10					15	
465	Gln	Lys	Glu	Asn	Val	Pro	Pro	Gly	Pro	Glu	Val	Cys	Ile	Thr	His	Gl
466				20					25					30		
467	Glu	Gly	Glu	Lys	Ile	Ser	Ala	Asn	Glu	Asn	Ser	Leu	Ala	Val	Arg	Se
468			35					40					45			
469	Thr	Pro	Ala	Glu	Asp	Asp	Ser	Arg	Asp	Ser	Gln	Val	Lys	Ser	Glu	Va
470		50					55					60				
471	Gln	Gln	Pro	Val	His	Pro	Lys	Pro	Leu	Ser	Pro	Asp	Ser	Arg	Ala	Se
472	65					70					75					8
473	Ser	Leu	Ser	Glu	Ser	Ser	Pro	Pro	Lys	Ala	Met	Lys	Lys	Phe	Gln	Al
E--> 474					85					90					95	
475	Pro	Ala	Arg	Glu	Thr	Cys	Val	Glu	Cys	Gln	Lys	Thr	Val	Tyr	Pro	Mo

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*same*

476				100					105					110			
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478			115					120					125				
479	Cys	Ser	Tyr	Cys	Asn	Asn	Lys	Leu	Ser	Leu	Gly	Thr	Tyr	Ala	Ser	Le	
480		130					135					140					
481	His	Gly	Arg	Ile	Tyr	Cys	Lys	Pro	His	Phe	Asn	Gln	Leu	Phe	Lys	Se	
482	145					150					155					16	
483	Lys	Gly	Asn	Tyr	Asp	Glu	Gly	Phe	Gly	His	Arg	Pro	His	Lys	Asp	Le	
<b>E--&gt; 484</b>					<b>165</b>				<b>170</b>					<b>175</b>			
485	Trp	Ala	Ser	Lys	Asn	Glu	Asn	Glu	Glu	Ile	Leu	Glu	Arg	Pro	Ala	Gl	
486			180					185				190					
487	Leu	Ala	Asn	Ala	Arg	Glu	Thr	Pro	His	Ser	Pro	Gly	Val	Glu	Asp	Al	
488			195					200				205					
489	Pro	Ile	Ala	Lys	Gly	Gly	Val	Leu	Ala	Ala	Ser	Met	Glu	Ala	Lys	Al	
490		210					215					220					
491	Ser	Ser	Gln	Gln	Glu	Lys	Glu	Asp	Lys	Pro	Ala	Glu	Thr	Lys	Lys	Le	
492	225					230					235					24	
493	Arg	Ile	Ala	Trp	Pro	Pro	Pro	Thr	Glu	Leu	Gly	Ser	Ser	Gly	Ser	Al	
<b>E--&gt; 494</b>					<b>245</b>				<b>250</b>					<b>255</b>			
495	Leu	Glu	Glu	Gly	Ile	Lys	Met	Ser	Lys	Pro	Lys	Trp	Pro	Pro	Glu	As	
496			260					265				270					
497	Glu	Ile	Ser	Lys	Pro	Glu	Val	Pro	Glu	Asp	Val	Asp	Leu	Asp	Leu	Ly	
498			275					280				285					
499	Lys	Leu	Arg	Arg	Ser	Ser	Ser	Leu	Lys	Glu	Arg	Ser	Arg	Pro	Phe	Th	
500		290					295					300					
501	Val	Ala	Ala	Ser	Phe	Gln	Ser	Thr	Ser	Val	Lys	Ser	Pro	Lys	Thr	Va	
502	305					310					315					32	
503	Ser	Pro	Pro	Ile	Arg	Lys	Gly	Trp	Ser	Met	Ser	Glu	Gln	Ser	Glu	Gl	
<b>E--&gt; 504</b>					<b>325</b>				<b>330</b>					<b>335</b>			
505	Ser	Val	Gly	Gly	Arg	Val	Ala	Glu	Arg	Lys	Gln	Val	Glu	Asn	Ala	Ly	
506			340					345				350					
507	Ala	Ser	Lys	Lys	Asn	Gly	Asn	Val	Gly	Lys	Thr	Thr	Trp	Gln	Asn	Ly	
508			355					360				365					
509	Glu	Ser	Lys	Gly	Glu	Thr	Gly	Lys	Arg	Ser	Lys	Glu	Gly	His	Ser	Le	
510		370					375					380					
511	Glu	Met	Glu	Asn	Glu	Asn	Leu	Val	Glu	Asn	Gly	Ala	Asp	Ser	Asp	Gl	
512	385					390					395					40	
513	Asp	Asp	Asn	Ser	Phe	Leu	Lys	Gln	Gln	Ser	Pro	Gln	Glu	Pro	Lys	Se	
<b>E--&gt; 514</b>					<b>405</b>				<b>410</b>					<b>415</b>			
515	Leu	Asn	Trp	Ser	Ser	Phe	Val	Asp	Asn	Thr	Phe	Ala	Glu	Glu	Phe	Th	
516			420					425				430					
517	Thr	Gln	Asn	Gln	Lys	Ser	Gln	Asp	Val	Glu	Leu	Trp	Glu	Gly	Glu	Va	
518			435					440				445					
519	Val	Lys	Glu	Leu	Ser	Val	Glu	Glu	Gln	Ile	Lys	Arg	Asn	Arg	Tyr	Ty	
520		450					455					460					
521	Asp	Glu	Asp	Glu	Asp	Glu	Glu										
522		465				470											

523 &lt;210&gt; 112

524 &lt;211&gt; 94

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*same*

525	<212>	PRT															
526	<213>	homo sapiens															
527	<400>	112															
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529		1				5					10					15	
530		Lys	Tyr	Thr	Leu	Phe	Leu	Ile	Ala	His	Met	Gly	Pro	Pro	Tyr	Leu	Le
531					20					25					30		
532		Ala	Leu	Val	Leu	Met	Leu	Lys	Ser	Trp	Pro	Trp	Glu	Arg	Cys	Leu	Pr
533				35					40					45			
534		Gly	Arg	His	Ser	Cys	Leu	Val	Gln	Ala	Lys	Pro	Leu	Cys	Asn	Ala	Se
535			50					55					60				
536		Pro	Phe	Trp	Cys	Tyr	Glu	Val	Pro	Leu	Cys	Arg	Arg	Phe	His	Gln	Gl
537		65					70					75					8
538		Leu	Val	Thr	Val	Pro	Ser	Thr	Arg	Thr	Cys	Phe	Glu	Ile	Ser		
<b>E--&gt;</b>	<b>539</b>					<b>85</b>					<b>90</b>						

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*same*

540	<210>	113															
541	<211>	324															
542	<212>	PRT															
543	<213>	homo sapiens															
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546		1				5					10					15	
547		Trp	Gly	Gly	Leu	Thr	Ser	Ser	Arg	Thr	Thr	Asp	Asn	Gly	Gly	Glu	Gl
548					20					25					30		
549		Thr	Ala	Leu	Ser	Pro	Gln	Glu	Ala	Pro	Phe	Ser	Gly	Ile	Ser	Thr	Pr
550				35					40					45			
551		Pro	Asp	Val	Leu	Ser	Val	Gly	Pro	Glu	Pro	Ala	Trp	Glu	Ala	Ala	Al
552			50					55					60				
553		Thr	Thr	Lys	Gly	Leu	Ala	Thr	Asp	Val	Ala	Thr	Phe	Thr	Gln	Gly	Al
554		65					70					75					8
555		Ala	Pro	Gly	Arg	Glu	Asp	Thr	Gly	Leu	Leu	Thr	Thr	Thr	His	Gly	Pr
<b>E--&gt;</b>	<b>556</b>					<b>85</b>					<b>90</b>					<b>95</b>	
557		Glu	Glu	Ala	Pro	Arg	Leu	Ala	Met	Leu	Gln	Asn	Glu	Leu	Glu	Gly	Le
558					100						105				110		
559		Gly	Asp	Ile	Phe	His	Pro	Met	Asn	Ala	Glu	Glu	Gln	Ala	Gln	Leu	Al
560				115					120					125			
561		Ala	Ser	Gln	Pro	Gly	Pro	Lys	Val	Leu	Ser	Ala	Glu	Gln	Gly	Ser	Ty
562			130					135					140				
563		Phe	Val	Arg	Leu	Gly	Asp	Leu	Gly	Pro	Ser	Phe	Arg	Gln	Arg	Ala	Ph
564		145					150					155					16
565		Glu	His	Ala	Val	Ser	His	Leu	Gln	His	Gly	Gln	Phe	Gln	Ala	Arg	As
<b>E--&gt;</b>	<b>566</b>					<b>165</b>					<b>170</b>					<b>175</b>	
567		Thr	Leu	Ala	Gln	Leu	Gln	Asp	Cys	Phe	Arg	Leu	Ile	Glu	Lys	Ala	Gl
568					180						185				190		
569		Gln	Ala	Pro	Glu	Gly	Gln	Pro	Arg	Leu	Asp	Gln	Gly	Ser	Gly	Ala	Se
570				195					200					205			
571		Ala	Glu	Asp	Ala	Ala	Val	Gln	Glu	Glu	Arg	Asp	Ala	Gly	Val	Leu	Se
572			210					215					220				
573		Arg	Val	Cys	Gly	Leu	Leu	Arg	Gln	Leu	His	Thr	Ala	Tyr	Ser	Gly	Le

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*same*

574	225					230					235					24
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<b>E--&gt; 576</b>					<b>245</b>					<b>250</b>					<b>255</b>	
577	Arg	Ala	Arg	His	Ser	Leu	Cys	Glu	Leu	Tyr	Gly	Ile	Val	Ala	Ser	Al
578				260					265					270		
579	Gly	Ser	Val	Glu	Glu	Leu	Pro	Ala	Glu	Arg	Leu	Val	Gln	Ser	Arg	Gl
580			275					280					285			
581	Gly	Val	His	Gln	Ala	Trp	Gln	Gly	Leu	Glu	Gln	Leu	Leu	Glu	Gly	Le
582		290					295				300					
583	Gln	His	Asn	Pro	Pro	Leu	Ser	Trp	Leu	Val	Gly	Pro	Phe	Ala	Leu	Pr
584	305					310					315					32
585	Ala	Gly	Gly	Gln												

*same*

586	<210>	114															
587	<211>	148															
588	<212>	PRT															
589	<213>	homo sapiens															
590	<400>	114															
591		Ile	Ala	Met	Thr	Pro	Pro	Asn	Ala	Thr	Glu	Ala	Ser	Lys	Pro	Gln	Gl
592		1				5					10				15		
593		Thr	Thr	Val	Cys	Pro	Pro	Cys	Asp	Asn	Glu	Leu	Lys	Ser	Glu	Ala	Il
594					20				25					30			
595		Ile	Glu	His	Leu	Cys	Ala	Ser	Glu	Phe	Ala	Leu	Arg	Met	Lys	Ile	Ly
596				35					40				45				
597		Glu	Val	Lys	Lys	Glu	Asn	Gly	Asp	Lys	Lys	Ile	Val	Pro	Lys	Lys	Ly
598			50				55					60					
599		Lys	Pro	Leu	Lys	Leu	Gly	Pro	Ile	Lys	Lys	Lys	Asp	Leu	Lys	Lys	Le
600		65				70					75					8	
601		Val	Leu	Tyr	Leu	Lys	Asn	Gly	Ala	Asp	Cys	Pro	Cys	His	Gln	Leu	As
<b>E--&gt; 602</b>					<b>85</b>				<b>90</b>					<b>95</b>			
603		Asn	Leu	Ser	His	His	Phe	Leu	Ile	Met	Gly	Arg	Lys	Val	Lys	Ser	Gl
604					100					105				110			
605		Tyr	Leu	Leu	Thr	Ala	Ile	His	Lys	Trp	Asp	Lys	Lys	Asn	Lys	Glu	Ph
606				115					120					125			
607		Lys	Asn	Phe	Met	Lys	Lys	Met	Lys	Asn	His	Glu	Cys	Pro	Thr	Phe	Gl
608			130					135				140					
609		Ser	Val	Phe	Lys												
610		145															

*same*

611	<210>	119															
612	<211>	135															
613	<212>	PRT															
614	<213>	homo sapiens															
615	<400>	119															
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617		1				5					10				15		
618		Leu	Ser	Leu	Leu	Tyr	Pro	Lys	Ser	Leu	Ser	Arg	His	Val	Ser	Val	Ar
619				20						25				30			
620		Thr	Ser	Val	Val	Thr	Gln	Gln	Leu	Leu	Ser	Glu	Pro	Ser	Pro	Lys	Al
621				35					40					45			

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*same*

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*same*

622	Pro	Arg	Ala	Arg	Pro	Cys	Arg	Val	Ser	Thr	Ala	Asp	Arg	Ser	Val	Ar
623		50					55					60				
624	Lys	Gly	Ile	Met	Ala	Tyr	Ser	Leu	Glu	Asp	Leu	Leu	Leu	Lys	Val	Ar
625	65					70					75					8
626	Asp	Thr	Leu	Met	Leu	Ala	Asp	Lys	Pro	Phe	Phe	Leu	Val	Leu	Glu	Gl
<b>E--&gt; 627</b>					<b>85</b>					<b>90</b>					<b>95</b>	
628	Asp	Gly	Thr	Thr	Val	Glu	Thr	Glu	Glu	Tyr	Phe	Gln	Ala	Leu	Ala	Gl
629				100					105					110		
630	Asp	Thr	Val	Phe	Met	Val	Leu	Gln	Lys	Gly	Gln	Lys	Trp	Gln	Pro	Pr
631			115					120					125			
632	Ser	Glu	Gln	Gly	Thr	Arg	His									
633		130					135									

634	<210>	122															
635	<211>	193															
636	<212>	PRT															
637	<213>	homo sapiens															
638	<400>	122															
639		Glu	Ala	Cys	Ala	His	Thr	Leu	Ser	Cys	Pro	Ala	Leu	Ala	Arg	Leu	Gl
640		1				5					10					15	
641		Arg	Ala	Arg	Arg	Arg	Pro	Trp	Met	Ser	His	Arg	Thr	Ser	Ser	Thr	Ph
642					20					25					30		
643		Arg	Ala	Glu	Arg	Ser	Phe	His	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ala	Al
644				35					40					45			
645		Thr	Ser	Ser	Ser	Ala	Ser	Arg	Ala	Leu	Pro	Ala	Gln	Asp	Pro	Pro	Me
646			50					55					60				
647		Glu	Lys	Ala	Leu	Ser	Met	Phe	Ser	Asp	Asp	Phe	Gly	Ser	Phe	Met	Ar
648		65				70					75					8	
649		Pro	His	Ser	Glu	Pro	Leu	Ala	Phe	Pro	Ala	Arg	Pro	Gly	Gly	Ala	Gl
<b>E--&gt; 650</b>					<b>85</b>					<b>90</b>					<b>95</b>		
651		Asn	Ile	Lys	Thr	Leu	Gly	Asp	Ala	Tyr	Glu	Phe	Ala	Val	Asp	Val	Ar
652					100					105					110		
653		Asp	Phe	Ser	Pro	Glu	Asp	Ile	Ile	Val	Thr	Thr	Ser	Asn	Asn	His	Il
654				115					120					125			
655		Glu	Val	Arg	Ala	Glu	Lys	Leu	Ala	Ala	Asp	Gly	Thr	Val	Met	Asn	Th
656			130					135					140				
657		Phe	Ala	His	Lys	Cys	Gln	Leu	Pro	Glu	Asp	Val	Asp	Pro	Thr	Ser	Va
658			145				150				155					16	
659		Thr	Ser	Ala	Leu	Arg	Glu	Asp	Gly	Ser	Leu	Thr	Ile	Arg	Ala	Arg	Ar
<b>E--&gt; 660</b>					<b>165</b>					<b>170</b>					<b>175</b>		
661		His	Pro	His	Thr	Glu	His	Val	Gln	Gln	Thr	Phe	Arg	Thr	Glu	Ile	Ly
662					180					185					190		
663		Ile															

664	<210>	126															
665	<211>	250															
666	<212>	PRT															
667	<213>	homo sapiens															
668	<400>	126															
669		Glu	Thr	Arg	Val	Lys	Thr	Ser	Leu	Glu	Leu	Leu	Arg	Thr	Gln	Leu	Gl

*same*



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*Same*

670	1	5	10	15													
671	Pro	Thr	Gly	Thr	Val	Gly	Asn	Thr	Ile	Met	Thr	Ser	Gln	Pro	Val	Pr	
672				20					25					30			
673	Asn	Glu	Thr	Ile	Ile	Val	Leu	Pro	Ser	Asn	Val	Ile	Asn	Phe	Ser	Gl	
674			35					40					45				
675	Ala	Glu	Lys	Pro	Glu	Pro	Thr	Asn	Gln	Gly	Gln	Asp	Ser	Leu	Lys	Ly	
676		50					55					60					
677	His	Leu	His	Ala	Glu	Ile	Lys	Val	Ile	Gly	Thr	Ile	Gln	Ile	Leu	Cy	
678	65					70					75					8	
679	Gly	Met	Met	Val	Leu	Ser	Leu	Gly	Ile	Ile	Leu	Ala	Ser	Ala	Ser	Ph	
<b>E--&gt; 680</b>					<b>85</b>					<b>90</b>				<b>95</b>			
681	Ser	Pro	Asn	Phe	Thr	Gln	Val	Thr	Ser	Thr	Leu	Leu	Asn	Ser	Ala	Ty	
682				100						105				110			
683	Pro	Phe	Ile	Gly	Pro	Phe	Phe	Phe	Ile	Ile	Ser	Gly	Ser	Leu	Ser	Il	
684			115					120					125				
685	Ala	Thr	Glu	Lys	Arg	Leu	Thr	Lys	Leu	Leu	Val	His	Ser	Ser	Leu	Va	
686		130					135					140					
687	Gly	Ser	Ile	Leu	Ser	Ala	Leu	Ser	Ala	Leu	Val	Gly	Phe	Ile	Ile	Le	
688	145					150					155					16	
689	Ser	Val	Lys	Gln	Ala	Thr	Leu	Asn	Pro	Ala	Ser	Leu	Gln	Cys	Glu	Le	
<b>E--&gt; 690</b>					<b>165</b>					<b>170</b>				<b>175</b>			
691	Asp	Lys	Asn	Asn	Ile	Pro	Thr	Arg	Ser	Tyr	Val	Ser	Tyr	Phe	Tyr	Hi	
692				180						185				190			
693	Asp	Ser	Leu	Tyr	Thr	Thr	Asp	Cys	Tyr	Thr	Ala	Lys	Ala	Ser	Leu	Al	
694			195					200					205				
695	Gly	Thr	Leu	Ser	Leu	Met	Leu	Ile	Cys	Thr	Leu	Leu	Glu	Phe	Cys	Le	
696		210					215					220					
697	Ala	Val	Leu	Thr	Ala	Val	Leu	Arg	Trp	Lys	Gln	Ala	Tyr	Ser	Asp	Ph	
698	225					230					235					24	
699	Pro	Gly	Val	Ser	Val	Leu	Ala	Gly	Phe	Thr							
<b>E--&gt; 700</b>					<b>245</b>					<b>250</b>							

701 <210> 129  
 702 <211> 211  
 703 <212> PRT  
 704 <213> homo sapiens  
 705 <400> 129

*Same*

706	Pro	Ala	Ser	Asn	Arg	Pro	Lys	Ser	Gly	Arg	Ala	Pro	Glu	Pro	Arg	Gl	
707	1			5						10				15			
708	Pro	Ala	Arg	Arg	Ser	Ala	Gly	Gly	Ser	Pro	Pro	Pro	Pro	Pro	Trp	Pr	
709				20					25					30			
710	Arg	Val	Pro	Ala	Ala	Ala	Ala	Gly	Thr	Glu	Gly	Ala	Ser	Pro	Asp	Le	
711			35					40				45					
712	Ala	Pro	Leu	Arg	Pro	Ala	Ala	Pro	Gly	Gln	Thr	Pro	Leu	Arg	Lys	Gl	
713		50					55					60					
714	Val	Leu	Lys	Ser	Lys	Met	Gly	Lys	Ser	Glu	Lys	Ile	Ala	Leu	Pro	Hi	
715	65					70					75					8	
716	Gly	Gln	Leu	Val	His	Gly	Ile	His	Leu	Tyr	Glu	Gln	Pro	Lys	Ile	As	
<b>E--&gt; 717</b>					<b>85</b>					<b>90</b>				<b>95</b>			
718	Arg	Gln	Lys	Ser	Lys	Tyr	Asn	Leu	Pro	Leu	Thr	Lys	Ile	Thr	Ser	Al	

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*same*

719				100					105					110			
720	Lys	Arg	Asn	Glu	Asn	Asn	Phe	Trp	Gln	Asp	Ser	Val	Ser	Ser	Asp	Ar	
721			115					120					125				
722	Ile	Gln	Lys	Gln	Glu	Lys	Lys	Pro	Phe	Lys	Asn	Thr	Glu	Asn	Ile	Ly	
723			130					135					140				
724	Asn	Ser	His	Leu	Lys	Lys	Ser	Ala	Phe	Leu	Thr	Glu	Val	Ser	Gln	Ly	
725								150					155			16	
726	Glu	Asn	Tyr	Ala	Gly	Ala	Lys	Phe	Ser	Asp	Pro	Pro	Ser	Pro	Ser	Va	
<b>E--&gt; 727</b>					<b>165</b>				<b>170</b>						<b>175</b>		
728	Leu	Pro	Lys	Pro	Pro	Ser	His	Trp	Met	Gly	Ser	Thr	Val	Glu	Asn	Se	
729				180					185					190			
730	Asn	Gln	Asn	Arg	Glu	Leu	Met	Ala	Val	His	Leu	Lys	Thr	Leu	Leu	Ly	
731			195					200					205				
732	Val	Gln	Thr														
733			210														

*same*

734	<210>	135															
735	<211>	87															
736	<212>	PRT															
737	<213>	homo sapiens															
738	<400>	135															
739	Leu	Asn	Val	Phe	Ser	Ser	Leu	Gln	Ile	Ser	Glu	Leu	Ile	Phe	Pro	Pr	
740	1				5					10					15		
741	Leu	Pro	Met	Trp	His	Pro	Leu	Pro	Arg	Lys	Lys	Pro	Gly	Met	Tyr	Ar	
742				20					25					30			
743	Gly	Asn	Gly	His	Gln	Asn	His	Tyr	Pro	Pro	Pro	Val	Pro	Phe	Gly	Ty	
744			35					40					45				
745	Pro	Asn	Gln	Gly	Arg	Lys	Asn	Lys	Pro	Tyr	Arg	Pro	Ile	Pro	Val	Th	
746		50					55					60					
747	Trp	Val	Pro	Pro	Pro	Gly	Met	His	Cys	Asp	Arg	Asn	His	Trp	Ile	As	
748	65					70				75						8	
749	Pro	His	Met	Leu	Ala	Pro	His										
<b>E--&gt; 750</b>					<b>85</b>												

*same*

751	<210>	138															
752	<211>	366															
753	<212>	PRT															
754	<213>	homo sapiens															
755	<400>	138															
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757	1				5					10					15		
758	Val	Leu	Val	Met	Leu	Lys	Gln	Thr	Glu	Asn	Asn	Tyr	Leu	Glu	Cys	Gl	
759				20					25					30			
760	Lys	Gly	Glu	Asp	Thr	Gly	Arg	Val	His	Leu	Ser	Gln	Met	Lys	Ile	Il	
761			35					40					45				
762	Thr	Pro	Leu	Asp	Glu	His	Leu	Arg	Ser	Arg	Pro	Asn	Asp	Pro	Ser	Hi	
763		50					55					60					
764	Ala	Gln	Lys	Pro	Val	Asp	Ser	Gly	Ala	Pro	His	Ala	Val	Val	Leu	Hi	
765	65					70				75						8	
766	Asp	Phe	Pro	Ala	Glu	Gln	Val	Asp	Asp	Leu	Asn	Leu	Thr	Ser	Gly	Gl	

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*same*

<b>E--&gt;</b>	<b>767</b>					<b>85</b>						<b>90</b>					<b>95</b>	
	768	Ile	Val	Tyr	Leu	Leu	Glu	Lys	Ile	Asp	Thr	Asp	Trp	Tyr	Arg	Gly	As	
	769				100					105					110			
	770	Cys	Arg	Asn	Gln	Ile	Gly	Ile	Phe	Pro	Ala	Asn	Tyr	Val	Lys	Val	Il	
	771			115					120					125				
	772	Ile	Asp	Ile	Pro	Glu	Gly	Gly	Asn	Gly	Lys	Arg	Glu	Cys	Val	Ser	Se	
	773		130					135					140					
	774	His	Cys	Val	Lys	Gly	Ser	Arg	Cys	Val	Ala	Arg	Phe	Glu	Tyr	Ile	Gl	
	775		145				150					155					16	
	776	Glu	Gln	Lys	Asp	Glu	Leu	Ser	Phe	Ser	Glu	Gly	Glu	Ile	Ile	Ile	Le	
<b>E--&gt;</b>	<b>777</b>					<b>165</b>					<b>170</b>					<b>175</b>		
	778	Lys	Glu	Tyr	Val	Asn	Glu	Glu	Trp	Ala	Arg	Gly	Glu	Val	Arg	Gly	Ar	
	779				180					185					190			
	780	Thr	Gly	Ile	Phe	Pro	Leu	Asn	Phe	Val	Glu	Pro	Val	Glu	Asp	Tyr	Pr	
	781			195					200					205				
	782	Thr	Ser	Gly	Ala	Asn	Val	Leu	Ser	Thr	Lys	Val	Pro	Leu	Lys	Thr	Ly	
	783		210					215					220					
	784	Lys	Glu	Asp	Ser	Gly	Ser	Asn	Ser	Gln	Val	Asn	Ser	Leu	Pro	Ala	Gl	
	785		225				230					235					24	
	786	Trp	Cys	Glu	Ala	Leu	His	Ser	Phe	Thr	Ala	Glu	Thr	Ser	Asp	Asp	Le	
<b>E--&gt;</b>	<b>787</b>					<b>245</b>					<b>250</b>					<b>255</b>		
	788	Ser	Phe	Lys	Arg	Gly	Asp	Arg	Ile	Gln	Ile	Leu	Glu	Arg	Leu	Asp	Se	
	789				260					265					270			
	790	Asp	Trp	Cys	Arg	Gly	Arg	Leu	Gln	Asp	Arg	Glu	Gly	Ile	Phe	Pro	Al	
	791			275					280					285				
	792	Val	Phe	Val	Arg	Pro	Cys	Pro	Ala	Glu	Ala	Lys	Ser	Met	Leu	Ala	Il	
	793		290					295					300					
	794	Val	Pro	Lys	Gly	Arg	Lys	Ala	Lys	Ala	Leu	Tyr	Asp	Phe	Arg	Gly	Gl	
	795		305				310					315					32	
	796	Asn	Glu	Asp	Glu	Leu	Ser	Phe	Lys	Ala	Gly	Asp	Ile	Ile	Thr	Glu	Le	
<b>E--&gt;</b>	<b>797</b>					<b>325</b>					<b>330</b>					<b>335</b>		
	798	Glu	Ser	Val	Asp	Asp	Asp	Trp	Met	Ser	Gly	Glu	Leu	Met	Gly	Lys	Se	
	799				340					345					350			
	800	Gly	Ile	Phe	Pro	Lys	Asn	Tyr	Ile	Gln	Phe	Leu	Gln	Ile	Ser			
	801			355					360					365				

802 &lt;210&gt; 145

803 &lt;211&gt; 109

804 &lt;212&gt; PRT

805 &lt;213&gt; homo sapiens

806 &lt;400&gt; 145

807 Met Pro Lys Gly Lys Ala Phe Arg Arg Thr Leu Arg Ile Thr Ser Le

808 1 5 10 15

809 Phe Phe Ser Ser Leu Leu Leu Leu Gln Leu Leu Phe Gly His His Le

810 20 25 30

811 Leu Val Leu Val Ser Pro Gln Leu Pro Gly Ala Val Phe Glu Gly Gl

812 35 40 45

813 Ala Phe Ser Val Pro Pro Pro Gln Ala Leu Pro Met Met Ala Pro Se

814 50 55 60

815 His His Pro Ser Pro Ala Pro Leu Pro Ala Ser Pro Pro Pro Pro Al

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**RAW SEQUENCE LISTING**  
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816 *same* 65 70 75 8  
 817 Pro Pro Pro Pro Trp Arg Arg Arg Gly Ile Pro Leu Ala Phe Gly Le  
 E--> 818 85 90 95  
 819 Pro Arg Ser Arg Arg Leu Pro Glu Leu Pro Gln Pro Arg  
 820 100 105

821 <210> 146  
 822 <211> 247  
 823 <212> PRT  
 824 <213> homo sapiens *same*  
 825 <400> 146  
 826 Arg Pro Ala Pro Ala Pro Arg Cys Gln Leu Pro Gln Arg Pro Ala Gl  
 827 1 5 10 15  
 828 Ala Arg Cys Met Leu Ser Arg Cys Arg Ser Arg Leu Leu His Val Le  
 829 20 25 30  
 830 Gly Leu Ser Phe Leu Leu Gln Thr Arg Arg Pro Ile Leu Leu Cys Se  
 831 35 40 45  
 832 Pro Arg Leu Met Lys Pro Leu Val Val Phe Val Leu Gly Gly Pro Gl  
 833 50 55 60  
 834 Ala Gly Lys Gly Thr Gln Cys Ala Arg Ile Val Glu Lys Tyr Gly Ty  
 835 65 70 75 8  
 836 Thr His Leu Ser Ala Gly Glu Leu Leu Arg Asp Glu Arg Lys Asn Pr  
 E--> 837 85 90 95  
 838 Asp Ser Gln Tyr Gly Glu Leu Ile Glu Lys Tyr Ile Lys Glu Gly Ly  
 839 100 105 110  
 840 Ile Val Pro Val Glu Ile Thr Ile Ser Leu Leu Lys Arg Glu Met As  
 841 115 120 125  
 842 Gln Thr Met Ala Ala Asn Ala Gln Lys Asn Lys Phe Leu Ile Asp Gl  
 843 130 135 140  
 844 Phe Pro Arg Asn Gln Asp Asn Leu Gln Gly Trp Asn Lys Thr Met As  
 845 145 150 155 16  
 846 Gly Lys Ala Asp Val Ser Phe Val Leu Phe Phe Asp Cys Asn Asn Gl  
 E--> 847 165 170 175  
 848 Ile Cys Ile Glu Arg Cys Leu Glu Arg Gly Lys Ser Ser Gly Arg Se  
 849 180 185 190  
 850 Asp Asp Asn Arg Glu Ser Leu Glu Lys Arg Ile Gln Thr Tyr Leu Gl  
 851 195 200 205  
 852 Ser Thr Lys Pro Ile Ile Asp Leu Tyr Glu Glu Met Gly Lys Val Ly  
 853 210 215 220  
 854 Lys Ile Asp Ala Ser Lys Ser Val Asp Glu Val Phe Asp Glu Val Va  
 855 225 230 235 24  
 856 Gln Ile Phe Asp Lys Glu Gly  
 E--> 857 245

858 <210> 147  
 859 <211> 181  
 860 <212> PRT  
 861 <213> homo sapiens *same*  
 862 <400> 147  
 863 Ile Pro Asn Met Ala Ala Pro Leu Gly Gly Met Phe Ser Gly Gln Pr

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**RAW SEQUENCE LISTING**  
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*same*

864	1	5	10	15													
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866				20					25					30			
867	Leu	Gln	Ala	Ala	Pro	Gly	Ala	Pro	Arg	Pro	Ser	Ser	Ser	Thr	Leu	Va	
868			35						40				45				
869	Asp	Glu	Leu	Glu	Ser	Ser	Phe	Glu	Ala	Cys	Phe	Ala	Ser	Leu	Val	Se	
870		50					55					60					
871	Gln	Asp	Tyr	Val	Asn	Gly	Thr	Asp	Gln	Glu	Glu	Ile	Arg	Thr	Gly	Va	
872	65					70					75					8	
873	Asp	Gln	Cys	Ile	Gln	Lys	Phe	Leu	Asp	Ile	Ala	Arg	Gln	Thr	Glu	Cy	
E--> 874					85					90					95		
875	Phe	Phe	Leu	Gln	Lys	Arg	Leu	Gln	Leu	Ser	Val	Gln	Lys	Pro	Glu	Gl	
876				100						105				110			
877	Val	Ile	Lys	Glu	Asp	Val	Ser	Glu	Leu	Arg	Asn	Glu	Leu	Gln	Arg	Ly	
878			115						120				125				
879	Asp	Ala	Leu	Val	Gln	Lys	His	Leu	Thr	Lys	Leu	Arg	His	Trp	Gln	Gl	
880		130					135					140					
881	Val	Leu	Glu	Asp	Ile	Asn	Val	Gln	His	Lys	Lys	Pro	Ala	Asp	Ile	Pr	
882		145				150					155					16	
883	Gln	Gly	Ser	Leu	Ala	Tyr	Leu	Glu	Gln	Ala	Ser	Ala	Asn	Ile	Pro	Al	
E--> 884					165					170					175		
885	Pro	Leu	Lys	Pro	Thr												
886				180													

887 <210> 148

888 <211> 236

889 <212> PRT

890 <213> homo sapiens

891 <400> 148

*same*

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893	1				5					10				15		
894	Val	Ser	Val	Thr	Lys	Gln	Leu	Pro	Thr	Ser	Glu	Ala	Val	Val	Ser	Al
895				20					25					30		
896	Val	Ser	Glu	Ala	Gly	Ala	Ser	Gly	Ile	Thr	Glu	Ala	Gln	Ala	Arg	Al
897			35						40				45			
898	Ile	Val	Asn	Ser	Ala	Leu	Lys	Leu	Tyr	Ser	Gln	Asp	Lys	Thr	Gly	Me
899		50					55				60					
900	Val	Asp	Phe	Ala	Leu	Glu	Ser	Gly	Gly	Gly	Ser	Ile	Leu	Ser	Thr	Ar
901	65					70				75						8
902	Cys	Ser	Glu	Thr	Tyr	Glu	Thr	Lys	Thr	Ala	Leu	Met	Ser	Leu	Phe	Gl
E--> 903					85					90					95	
904	Ile	Pro	Leu	Trp	Tyr	Phe	Ser	Gln	Ser	Pro	Arg	Val	Val	Ile	Gln	Pr
905				100						105				110		
906	Asp	Ile	Tyr	Pro	Gly	Asn	Cys	Trp	Ala	Phe	Lys	Gly	Ser	Gln	Gly	Ty
907			115						120				125			
908	Leu	Val	Val	Arg	Leu	Ser	Met	Met	Ile	His	Pro	Ala	Ala	Phe	Thr	Le
909		130					135					140				
910	Glu	His	Ile	Pro	Lys	Thr	Leu	Ser	Pro	Thr	Gly	Asn	Ile	Ser	Ser	Al
911		145				150					155					16
912	Pro	Lys	Asp	Phe	Ala	Val	Tyr	Gly	Leu	Glu	Asn	Glu	Tyr	Gln	Glu	Gl

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*same*

<b>E--&gt;</b>	<b>913</b>					<b>165</b>					<b>170</b>				<b>175</b>		
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	915				180					185					190		
	916	Gln	Met	Phe	Gln	Ala	Leu	Lys	Arg	Pro	Asp	Asp	Thr	Ala	Phe	Gln	Il
	917			195					200					205			
	918	Val	Glu	Leu	Arg	Ile	Phe	Ser	Asn	Trp	Gly	His	Pro	Glu	Tyr	Thr	Cy
	919		210					215					220				
	920	Leu	Tyr	Arg	Phe	Arg	Val	His	Gly	Glu	Pro	Val	Lys				
	921	225					230					235					

*same*

	922	<210>	151															
	923	<211>	377															
	924	<212>	PRT															
	925	<213>	homo sapiens															
	926	<400>	151															
	927		Leu	Arg	Arg	Phe	Pro	Ala	Gln	Ser	Ser	Pro	Ala	Pro	Arg	Arg	Ala	Pr
	928		1				5					10				15		
	929		Glu	Gln	Arg	Pro	Pro	Ala	Gly	Pro	Ala	Ser	Ala	Trp	Ser	Ser	Ser	Ty
	930				20						25					30		
	931		Pro	His	Ala	Pro	Tyr	Leu	Gly	Ser	Ala	Arg	Ser	Leu	Ser	Pro	His	Ly
	932				35					40					45			
	933		Met	Ala	Asp	Gly	Gly	Ser	Pro	Phe	Leu	Gly	Arg	Arg	Asp	Phe	Val	Ty
	934			50				55					60					
	935		Pro	Ser	Ser	Thr	Arg	Asp	Pro	Ser	Ala	Ser	Asn	Gly	Gly	Gly	Ser	Pr
	936		65				70					75					8	
	937		Ala	Arg	Arg	Glu	Glu	Lys	Lys	Arg	Lys	Ala	Ala	Arg	Leu	Lys	Phe	As
<b>E--&gt;</b>	<b>938</b>					<b>85</b>					<b>90</b>				<b>95</b>			
	939	Phe	Gln	Ala	Gln	Ser	Pro	Lys	Glu	Leu	Thr	Leu	Gln	Lys	Gly	Asp	Il	
	940				100					105					110			
	941	Val	Tyr	Ile	His	Lys	Glu	Val	Asp	Lys	Asn	Trp	Leu	Glu	Gly	Glu	Hi	
	942			115					120					125				
	943	His	Gly	Arg	Leu	Gly	Ile	Phe	Pro	Ala	Asn	Tyr	Val	Glu	Val	Leu	Pr	
	944		130					135				140						
	945	Ala	Asp	Glu	Ile	Pro	Lys	Pro	Ile	Lys	Pro	Pro	Thr	Tyr	Gln	Val	Le	
	946		145				150					155					16	
	947	Glu	Tyr	Gly	Glu	Ala	Val	Ala	Gln	Tyr	Thr	Phe	Lys	Gly	Asp	Leu	Gl	
<b>E--&gt;</b>	<b>948</b>					<b>165</b>					<b>170</b>				<b>175</b>			
	949	Val	Glu	Leu	Ser	Phe	Arg	Lys	Gly	Glu	His	Ile	Cys	Leu	Ile	Arg	Ly	
	950				180					185					190			
	951	Val	Asn	Glu	Asn	Trp	Tyr	Glu	Gly	Arg	Ile	Thr	Gly	Thr	Gly	Arg	Gl	
	952			195					200					205				
	953	Gly	Ile	Phe	Pro	Ala	Ser	Tyr	Val	Gln	Val	Ser	Arg	Glu	Pro	Arg	Le	
	954		210					215					220					
	955	Arg	Leu	Cys	Asp	Asp	Gly	Pro	Gln	Leu	Pro	Thr	Ser	Pro	Arg	Leu	Th	
	956		225				230					235					24	
	957	Ala	Ala	Ala	Arg	Ser	Ala	Arg	Asp	Pro	Ser	Ala	Pro	Ser	Ala	Leu	Ar	
<b>E--&gt;</b>	<b>958</b>					<b>245</b>					<b>250</b>				<b>255</b>			
	959	Ser	Pro	Ala	Asp	Pro	Thr	Asp	Leu	Gly	Gly	Gln	Thr	Ser	Pro	Arg	Ar	
	960			260						265				270				
	961	Thr	Gly	Phe	Ser	Phe	Pro	Thr	Gln	Glu	Pro	Arg	Pro	Gln	Thr	Gln	As	

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*same*

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965	Pro	Leu	Asp	Leu	Gly	Thr	Ser	Ser	Pro	Asn	Thr	Ser	Gln	Ile	His	Tr	
966	305					310					315					32	
967	Thr	Pro	Tyr	Arg	Ala	Met	Tyr	Gln	Tyr	Arg	Pro	Gln	Asn	Glu	Asp	Gl	
<b>E--&gt; 968</b>					<b>325</b>					<b>330</b>					<b>335</b>		
969	Leu	Glu	Leu	Arg	Glu	Gly	Asp	Arg	Val	Asp	Val	Met	Gln	Gln	Cys	As	
970				340					345					350			
971	Asp	Gly	Trp	Phe	Val	Gly	Val	Ser	Arg	Arg	Thr	Gln	Lys	Phe	Gly	Th	
972			355					360					365				
973	Phe	Pro	Gly	Asn	Tyr	Val	Ala	Pro	Val								
974		370					375										

*same*

975	<210>	157															
976	<211>	97															
977	<212>	PRT															
978	<213>	homo sapiens															
979	<400>	157															
980		Gly	Thr	Pro	Gly	Pro	Tyr	Pro	Gly	Pro	Leu	Ser	Pro	Pro	Pro	Glu	Al
981		1				5					10					15	
982		Pro	Pro	Leu	Glu	Ser	Ala	Glu	Pro	Leu	Gly	Pro	Ala	Ala	Asp	Leu	Tr
983				20						25					30		
984		Ala	Asp	Val	Asp	Leu	Thr	Glu	Phe	Asp	Gln	Tyr	Leu	Asn	Cys	Ser	Ar
985				35					40					45			
986		Thr	Arg	Pro	Asp	Ala	Pro	Gly	Leu	Pro	Tyr	His	Val	Ala	Leu	Ala	Ly
987			50					55					60				
988		Leu	Gly	Pro	Arg	Ala	Met	Ser	Cys	Pro	Glu	Glu	Ser	Ser	Leu	Ile	Se
989		65				70						75					8
990		Ala	Leu	Ser	Asp	Ala	Ser	Ser	Ala	Val	Tyr	Tyr	Ser	Ala	Cys	Ile	Se
<b>E--&gt; 991</b>					<b>85</b>						<b>90</b>					<b>95</b>	
992		Gly															

*same*

993	<210>	158															
994	<211>	173															
995	<212>	PRT															
996	<213>	homo sapiens															
997	<400>	158															
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999		1				5					10					15	
1000		Gly	Pro	Gln	Trp	Gln	Arg	Gly	Pro	Gly	Pro	Gly	Ala	Gly	Val	Gly	As
1001				20						25					30		
1002		Pro	Gly	Leu	Ser	Ala	Val	Ala	Phe	Trp	Trp	Gly	Ala	Met	Glu	Thr	Gl
1003				35					40					45			
1004		Asn	Gln	Ala	Val	Gly	Ser	Gln	Arg	Trp	Ser	Leu	Arg	Gly	Glu	Trp	Ar
1005			50					55				60					
1006		Ala	Phe	Cys	Phe	Cys	Leu	Val	Pro	Pro	His	Gly	Thr	Trp	Phe	Pro	G
1007		65				70						75					3
1008		Glu	Asn	Glu	Arg	Arg	Gly	Glu	Val	Glu	Asn	Arg	Thr	Phe	His	Lys	G
<b>E--&gt; 1009</b>					<b>85</b>						<b>90</b>					<b>95</b>	

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**RAW SEQUENCE LISTING**  
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*same*

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1011				100					105					110		
1012	Phe	Pro	Ala	Asp	Glu	Thr	Ile	Arg	Lys	Gly	Leu	Arg	Leu	Trp	Gln	Va
1013			115					120					125			
1014	Gly	Phe	Gly	Ala	Gly	Ala	Glu	Thr	Phe	Leu	Ser	Met	Arg	Thr	Ser	Ty
1015		130					135					140				
1016	Ser	Ser	Ser	Trp	Gly	Gly	Ala	Ala	Cys	Gly	Met	Ala	Gly	Glu	Asp	Al
1017	145					150					155					16
1018	Leu	Glu	Asn	Arg	Pro	Pro	Ser	Val	Glu	Gly	Pro	Phe	Pro			
E--> 1019					165					170						

1020	<210>	159														
1021	<211>	109														
1022	<212>	PRT														
1023	<213>	homo sapiens														
1024	<400>	159														
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1026	1				5				10						15	
1027	Ser	Gly	Leu	Trp	Ala	Cys	Arg	Glu	Val	Ala	Val	Arg	Gln	Ser	Ala	Le
1028				20					25					30		
1029	Trp	Pro	Cys	Leu	Cys	Pro	Ala	Arg	Gly	Arg	Gly	Leu	Trp	Thr	Ser	Ar
1030			35					40					45			
1031	Pro	Ser	Gly	Trp	Gly	Ser	Arg	Ser	Val	Gln	Ala	Gly	Ser	Ser	Thr	Cy
1032		50					55					60				
1033	Pro	Pro	Arg	Gln	Pro	Ser	Pro	Ser	Leu	Ser	Ala	Gly	Ala	Ala	Gly	Pr
1034	65					70					75					8
1035	Ala	Gly	Ala	Phe	Pro	Ala	Thr	Leu	Phe	Leu	His	Val	Leu	Pro	Ser	Gl
E--> 1036					85				90						95	
1037	Pro	Arg	Pro	Ser	Thr	Gly	Lys	Thr	Ser	Arg	Leu	Thr	Pro			
1038				100					105							

1039	<210>	160														
1040	<211>	152														
1041	<212>	PRT														
1042	<213>	homo sapiens														
1043	<400>	160														
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1045	1				5					10					15	
1046	Ala	Ala	Arg	Arg	Gly	Ser	Ala	Pro	Pro	Thr	Thr	Pro	Thr	Ala	Glu	As
1047				20					25					30		
1048	Thr	Glu	Arg	Pro	Gly	Ala	Pro	Ser	Trp	Phe	Pro	Leu	Val	Pro	Asn	Gl
1049			35					40					45			
1050	Thr	Glu	Arg	Leu	Lys	Glu	Leu	Pro	Gly	Met	Val	Thr	Ala	Glu	Lys	Ly
1051		50				55					60					
1052	Ser	Ser	Glu	Trp	Leu	His	Ala	Ala	Ala	Ala	Cys	Val	His	Leu	Pro	Se
1053	65					70					75					8
1054	Thr	Gln	Asp	Ser	Pro	Arg	Gln	Gln	Leu	Val	Phe	Thr	Cys	Pro	Pro	Pr
E--> 1055					85				90						95	
1056	Arg	Thr	Val	Pro	Gly	Leu	Ala	Pro	Gly	Cys	Arg	Gly	Ser	Ala	Glu	Gl
1057				100					105						110	



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**RAW SEQUENCE LISTING**  
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1058	Ala	Ser	Cys	Pro	Ile	Ser	Leu	Ala	Asn	Ser	Leu	Leu	Leu	Leu	Gly	Pr
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1060	His	Lys	Arg	His	Gly	Arg	Met	Phe	Leu	Ile	Arg	Gln	Glu	His	Arg	Th
1061		130					135					140				
1062	Pro	Asn	Pro	Ser	Leu	Cys	Leu	Ala								
1063	145					150										

1064	<210>	179															
1065	<211>	262															
1066	<212>	PRT															
1067	<213>	homo sapiens															
1068	<400>	179															
1069		Ser	Leu	Cys	Val	Phe	Pro	Ser	Ser	Ala	Ala	Ser	Phe	Leu	Ser	Phe	Le
1070		1				5					10					15	
1071		Ala	Leu	Val	Val	Ala	Ala	Thr	Met	Asn	Lys	Lys	Lys	Lys	Pro	Phe	Le
1072					20					25					30		
1073		Gly	Met	Pro	Ala	Pro	Leu	Gly	Tyr	Val	Pro	Gly	Leu	Gly	Arg	Gly	Al
1074				35					40					45			
1075		Thr	Gly	Phe	Thr	Thr	Arg	Ser	Asp	Ile	Gly	Pro	Ala	Arg	Asp	Ala	As
1076			50					55					60				
1077		Asp	Pro	Val	Asp	Asp	Arg	His	Ala	Pro	Pro	Gly	Lys	Arg	Thr	Val	Gl
1078		65					70					75					8
1079		Asp	Gln	Met	Lys	Lys	Asn	Gln	Ala	Ala	Asp	Asp	Asp	Asp	Glu	Asp	Le
E--> 1080						85					90				95		
1081		Asn	Asp	Thr	Asn	Tyr	Asp	Glu	Phe	Asn	Gly	Tyr	Ala	Gly	Ser	Leu	Ph
1082					100					105					110		
1083		Ser	Ser	Gly	Pro	Tyr	Glu	Lys	Asp	Asp	Glu	Glu	Ala	Asp	Ala	Ile	Ty
1084				115						120				125			
1085		Ala	Ala	Leu	Asp	Lys	Arg	Met	Asp	Glu	Arg	Arg	Lys	Glu	Arg	Arg	Gl
1086			130					135					140				
1087		Gln	Arg	Glu	Lys	Glu	Glu	Ile	Glu	Lys	Tyr	Arg	Met	Glu	Arg	Pro	Ly
1088							150					155					16
1089		Ile	Gln	Gln	Gln	Phe	Ser	Asp	Leu	Lys	Arg	Lys	Leu	Ala	Glu	Val	Th
E--> 1090						165					170				175		
1091		Glu	Glu	Glu	Trp	Leu	Ser	Ile	Pro	Glu	Val	Gly	Asp	Ala	Arg	Asn	Ly
1092					180					185					190		
1093		Arg	Gln	Arg	Asn	Pro	Arg	Tyr	Glu	Lys	Leu	Thr	Pro	Val	Pro	Asp	Se
1094				195					200					205			
1095		Phe	Phe	Ala	Lys	His	Leu	Gln	Thr	Gly	Glu	Asn	His	Thr	Ser	Val	As
1096			210					215					220				
1097		Pro	Arg	Gln	Thr	Gln	Phe	Gly	Gly	Leu	Asn	Thr	Pro	Tyr	Pro	Gly	Gl
1098							230					235					24
1099		Leu	Asn	Thr	Pro	Tyr	Pro	Gly	Gly	Met	Thr	Pro	Gly	Leu	Met	Thr	Pr
E--> 1100						245					250					255	
1101		Gly	Thr	Val	Ser	Trp	Thr										
1102					260												

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1104	<211>	467
1105	<212>	PRT

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

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Input Set: **I646569.RAW**

*same*

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1107	<400>	180															
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1109		1				5					10				15		
1110		Ala	Arg	Thr	Asp	Asp	Thr	Trp	His	Ser	Glu	Leu	Asp	Met	Arg	Lys	Il
1111					20					25					30		
1112		Gly	Gln	Ala	Arg	Asn	Thr	Leu	Met	Asp	Met	Arg	Leu	Ser	Gln	Val	Se
1113				35					40					45			
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1132		Val	Arg	Leu	Trp	Lys	Ala	Ala	Val	Glu	Leu	Glu	Glu	Pro	Glu	Asp	Al
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1136		Leu	Trp	Leu	Ala	Leu	Ala	Arg	Leu	Glu	Thr	Tyr	Glu	Asn	Ala	Arg	Ly
1137		225					230					235					24
1138		Val	Leu	Asn	Lys	Ala	Arg	Glu	Asn	Ile	Pro	Thr	Asp	Arg	His	Ile	Tr
<b>E--&gt; 1139</b>					<b>245</b>					<b>250</b>					<b>255</b>		
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1146		Ala	Gly	Ser	Val	Ala	Thr	Cys	Gln	Ala	Val	Met	Arg	Ala	Val	Ile	Gl
1147		305					310					315					32
1148		Ile	Gly	Ile	Glu	Glu	Glu	Asp	Arg	Lys	His	Thr	Trp	Met	Glu	Asp	Al
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1154		Ala	Ala	Tyr	Phe	Glu	Lys	Asn	His	Gly	Thr	Arg	Glu	Ser	Leu	Glu	Al
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1177	Asn	Ile	Arg	Ala	Ala	Gln	Asp	Leu	Cys	Glu	Glu	Ala	Leu	Arg	His	Ty
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1193	Ile	Phe	Leu	Glu	Ala	Arg	Pro	Gln	Arg	Arg	Thr	Lys	Ser	Val	Asp	Al
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1195	Leu	Lys	Lys	Cys	Glu	His	Asp	Pro	His	Val	Leu	Leu	Ala	Val	Ala	Ly
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1203	Arg	Lys	Arg	Cys	Glu	Ser	Ala	Glu	Pro	Arg	His	Gly	Glu	Leu	Trp	Cy
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1216		Ile	Asp	Val	Ala	Arg	Val	Thr	Phe	Asp	Leu	Tyr	Lys	Leu	Asn	Pro	Gl
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1218		Asp	Phe	Ile	Gly	Cys	Leu	Asn	Val	Lys	Ala	Thr	Phe	Tyr	Asp	Thr	Ty
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1220		Ser	Leu	Ser	Tyr	Asp	Leu	His	Cys	Cys	Gly	Ala	Lys	Arg	Ile	Met	Ly
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1224		Leu	Leu	Gly	Thr	Ser	Cys	Tyr	Leu	Gln	Gln	Leu	Leu	Asp	Ala	Thr	Gl
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1236		1				5					10					15	
1237		His	Pro	Tyr	Phe	Ile	Asn	Arg	Gln	Asp	Phe	Pro	Cys	Ile	Leu	Leu	Ar
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1252				130				135						140			

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1260		Thr	Ser	Thr	Ser	Lys	Glu	Gln	Thr	Asn	Trp	Arg	Asn	Val	Cys	Phe	Ph
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1262		Phe	Leu	Phe	Ile	Lys	Phe	Tyr	Ser	Thr	Ala	Lys	Phe	Gln	Ile	Ser	Ph
1263					35					40				45			
1264		Thr	Tyr	Arg	Pro	Cys	Lys	Gly	Thr	Val	Arg	Thr	Glu	His	Leu	Phe	Ty
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1266		Leu	Arg	Asp	Lys	Gly	Val	Glu	Ile	Phe	Ser	Leu	Asn	Phe	Ile	Arg	Ly
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1275	<212>	PRT															
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1282		Val	Asn	Pro	Gln	Cys	Leu	Gln	Leu	Phe	Trp	Gln	Asn	Ile	Phe	Lys	Gl
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1288		Thr	His	Val	Gly	Ser	Gly	Cys	Phe	Leu	Pro	Lys	Thr	Phe	Arg	Glu	Gl
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1298		Asn	Ser	Gln	Glu	Asp	Lys	Asn	Asp	Gly	Gly	Lys	Ser	Arg	Lys	Gly	A
1299					20					25					30		

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1303		50					55					60				
1304	Leu	Lys	Asn	Asp	Val	Ser	Glu	Glu	Lys	Asp	Gln	Lys	Lys	Pro	Glu	As
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1306	Glu	Met	Ser	Gly	Lys	Val	Glu	Leu	Val	Leu	Ser	Gln	Lys	Val	Val	Ly
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1309				100					105					110		
1310	Lys	Met	Pro	Glu	Ala	Asn	Gln	Leu	His	Leu	Pro	Asn	Leu	Asn	Ser	Gl
1311			115					120					125			
1312	Val	Asp	Ser	Pro	Ser	Ser	Glu	Lys	Ser	Pro	Val	Met	Thr	Pro	Phe	Ly
1313		130					135					140				
1314	Phe	Trp	Ala	Trp	Asp	Pro	Glu	Glu	Glu	Arg	Arg	Arg	Gln	Glu	Lys	Tr
1315	145					150				155						16
1316	Gln	Gln	Glu	Gln	Glu	Arg	Leu	Leu	Gln	Glu	Arg	Tyr	Gln	Lys	Glu	Gl
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1320	Glu	Glu	Arg	Arg	Tyr	Tyr	Glu	Glu	Glu	Arg	Lys	Ile	Ile	Glu	Asp	Th
1321			195					200				205				
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1323		210					215				220					
1324	Ser	Ser	Ser	Met	Thr	Glu	Gly	Ser	Gly	Thr	Met	Asn	Lys	Ile	Asp	Le
1325	225					230				235						24
1326	Gly	Asn	Cys	Gln	Asp	Glu	Lys	Gln	Asp	Arg	Arg	Trp	Lys	Lys	Ser	Ph
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1330	Leu	Glu	Glu	Lys	Gly	Ser	Leu	Thr	Glu	Gly	Ala	Leu	Ala	His	Ser	Gl
1331			275					280					285			
1332	Asn	Pro	Val	Ser	Lys	Gly	Val	His	Glu	Asp	His	Gln	Leu	Asp	Thr	Gl
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1334	Ala	Gly	Ala	Pro	His	Cys	Gly	Thr	Asn	Pro	Gln	Leu	Ala	Gln	Asp	Pr
1335	305					310				315						32
1336	Ser	Gln	Asn	Gln	Gln	Thr	Ser	Asn	Pro	Thr	His	Ser	Ser	Glu	Asp	Va
<b>E--&gt; 1337</b>					<b>325</b>					<b>330</b>					<b>335</b>	
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1339			340						345					350		
1340	Ser	Pro	Ser	Glu	Arg	Arg	Lys	Ser	Ile	Ser	Gly	Lys	Lys	Leu	Cys	Se
1341			355					360					365			
1342	Ser	Cys	Gly	Leu	Pro	Leu	Gly	Lys	Gly	Ala	Ala	Met	Ile	Ile	Glu	Th
1343		370					375					380				
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1346	Gly	Gln	Leu	Gly	Asp	Ala	Val	Ser	Gly	Thr	Asp	Val	Arg	Ile	Arg	As
<b>E--&gt; 1347</b>					<b>405</b>					<b>410</b>					<b>415</b>	
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1373	Thr	Pro	Trp	Glu	Glu	Ser	Asn	Val	Met	Gln	Asp	Lys	Asp	Ala	Pro	Se
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1377	His	Gln	Asn	Ser	Ser	Pro	Thr	Cys	Gln	Glu	Asp	Glu	Glu	Asp	Val	Ar
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1382			195					200				205				
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1384		210					215					220				
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1386	225					230					235					24
1387	Pro	Ser	Tyr	His	Pro	Ile	Ala	Pro	His	Ser	Gln	Val	Tyr	Gln	Pro	Al
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1395	Gln	Thr	Thr	Gly	Asp	Gly	Thr	Glu	Asp	Pro	Ser	Leu	Thr	Ala	Leu	Ar
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1397	Met	Arg	Met	Ala	Lys	Leu	Gly	Lys	Lys	Val	Ile					
E--> 1398					325					330						

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
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Input Set: **I646569.RAW**

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1402	<213>	homo sapiens															
1403	<400>	191															
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1405		1				5					10					15	
1406		Leu	Gln	Ala	Ile	Thr	Asp	Lys	Arg	Lys	Ile	Gln	Glu	Glu	Ile	Ser	Gl
1407					20						25				30		
1408		Lys	Arg	Leu	Lys	Ile	Glu	Glu	Asp	Lys	Leu	Lys	His	Gln	His	Leu	Ly
1409				35					40					45			
1410		Lys	Lys	Ala	Leu	Arg	Glu	Lys	Trp	Leu	Leu	Asp	Gly	Ile	Ser	Ser	Gl
1411			50					55					60				
1412		Lys	Glu	Gln	Glu	Glu	Met	Lys	Lys	Gln	Asn	Gln	Gln	Asp	Gln	His	Gl
1413		65					70					75					8
1414		Ile	Gln	Val	Leu	Glu	Gln	Ser	Ile	Leu	Arg	Leu	Glu	Lys	Glu	Ile	Gl
E--> 1415						85					90					95	
1416		Asp	Leu	Glu	Lys	Ala	Glu	Leu	Gln	Ile	Ser	Thr	Lys	Glu	Glu	Ala	Il
1417					100					105					110		
1418		Leu	Lys	Lys	Leu	Lys	Ser	Ile	Glu	Arg	Thr	Thr	Glu	Asp	Ile	Ile	Ar
1419				115					120					125			
1420		Ser	Val	Lys	Val	Glu	Arg	Glu	Glu	Arg	Ala	Glu	Glu	Ser	Ile	Glu	As
1421			130					135					140				
1422		Ile	Tyr	Ala	Asn	Ile	Pro	Asp	Leu	Pro	Lys	Ser	Tyr	Ile	Pro	Ser	Ar
1423		145					150					155					16
1424		Leu	Arg	Lys	Glu	Ile	Asn	Glu	Glu	Lys	Glu	Asp	Asp	Glu	Gln	Asn	Ar
E--> 1425						165					170					175	
1426		Lys	Ala	Leu	Tyr	Ala	Met	Glu	Ile	Lys	Val	Glu	Lys	Asp	Leu	Lys	Th
1427					180					185					190		
1428		Gly	Glu	Ser	Thr	Val	Leu	Ser	Ser	Asn	Thr	Ser	Gly	His	Gln	Met	Th
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1430		Leu	Lys	Gly	Thr	Gly	Val	Lys	Val								
1431			210					215									

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1434	<212>	PRT															
1435	<213>	homo sapiens															
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1438		1				5					10					15	
1439		Pro	Arg	Ile	Lys	Ile	Ser	Lys	Thr	Ser	Val	Asp	Gly	Asp	Pro	His	Ph
1440					20					25					30		
1441		Val	Val	Asp	Phe	Pro	Leu	Ser	Arg	Leu	Thr	Val	Cys	Phe	Asn	Ile	As
1442				35					40					45			
1443		Gly	Gln	Pro	Gly	Asp	Ile	Leu	Arg	Leu	Val	Ser	Asp	His	Arg	Asp	Se
1444			50					55					60				
1445		Gly	Val	Thr	Val	Asn	Gly	Glu	Leu	Ile	Gly	Ala	Pro	Ala	Pro	Pro	As
1446		65					70					75					8



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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

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Input Set: I646569.RAW

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	1449	Asn	Lys	Pro	Glu	Arg	Ser	Tyr	Leu	Glu	Ile	Thr	Pro	Ser	Arg	Val	Il
	1450				100					105						110	
	1451	Leu	Asp	Gly	Gly	Asp	Arg	Leu	Val	Leu	Pro	Cys	Asn	Gln	Ser	Val	Va
	1452			115					120					125			
	1453	Val	Gly	Ser	Trp	Gly	Leu	Glu	Val	Ser	Val	Ser	Ala	Asn	Ala	Asn	Va
	1454		130					135					140				
	1455	Thr	Val	Thr	Ile	Gln	Gly	Ser	Ile	Ala	Phe	Val	Ile	Leu	Ile	His	Le
	1456		145				150					155					16
	1457	Tyr	Lys	Lys	Pro	Ala	Pro	Phe	Gln	Arg	His	His	Leu	Gly	Phe	Tyr	Il
E-->	1458					165					170					175	
	1459	Ala	Asn	Ser	Glu	Gly	Leu	Ser	Ser	Asn	Cys	His	Gly	Leu	Leu	Gly	Gl
	1460				180					185					190		
	1461	Phe	Leu	Asn	Gln	Asp	Ala	Arg	Leu	Thr	Glu	Asp	Pro	Ala	Gly	Pro	Se
	1462			195					200					205			
	1463	Gln	Asn	Leu	Thr	His	Pro	Leu	Leu	Leu	Gln	Val	Gly	Glu	Gly	Pro	Gl
	1464		210					215					220				
	1465	Ala	Val	Leu	Thr	Val	Lys	Gly	His	Gln	Val	Pro	Val	Val	Trp	Lys	Gl
	1466		225				230					235					24
	1467	Arg	Lys	Ile	Tyr	Asn	Gly	Glu	Glu	Gln	Ile	Asp	Cys	Trp	Phe	Ala	Ar
E-->	1468					245					250					255	
	1469	Asn	Asn	Ala	Ala	Lys	Leu	Ile	Asp	Gly	Glu	Tyr	Lys	Asp	Tyr	Leu	Al
	1470				260					265					270		
	1471	Ser	His	Pro	Phe	Asp	Thr	Gly	Met	Thr	Leu	Gly	Gln	Gly	Met	Ser	Ar
	1472			275					280					285			
	1473	Glu	Leu														
	1474			290													

1475 &lt;210&gt; 193

1476 &lt;211&gt; 87

1477 &lt;212&gt; PRT

1478 &lt;213&gt; homo sapiens

1479 &lt;400&gt; 193

1480	Gly	His	Gly	Ser	Tyr	Arg	Thr	Pro	Lys	Arg	Ser	Ser	Thr	Asn	Cys	Le
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1481	1				5					10					15	
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1482	Gly	Lys	Phe	Trp	Glu	Leu	Ala	Asp	Ala	Lys	Lys	Lys	Arg	Lys	Lys	Va
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1483				20					25					30		
------	--	--	--	----	--	--	--	--	----	--	--	--	--	----	--	--

1484	His	Gln	Lys	Gln	Lys	Arg	Ala	Thr	Ile	Arg	Ala	Thr	Glu	Leu	Ala	Ly
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----

1485			35					40					45			
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1486	Gly	Lys	Arg	His	Val	Gly	Gly	Ser	Val	Ser	His	Leu	Ser	Pro	Gly	Th
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----

1487		50				55						60				
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1488	Val	Lys	Cys	Val	Ile	Thr	Ala	Gln	Val	His	Gly	Lys	Arg	Gln	Gln	Gl
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1489	65					70					75					3
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1490	Lys	Ala	Leu	Cys	Arg	Leu	Glu									
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E--&gt; 1491 85

1492 &lt;210&gt; 195

1493 &lt;211&gt; 251

1494 &lt;212&gt; PRT

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Input Set: **I646569.RAW**

*Same*

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1500					20					25					30		
1501		Thr	Gly	Arg	Val	Pro	Gly	Thr	Arg	Gln	Met	Leu	Gln	Asp	Ser	Val	Gln
1502				35					40					45			
1503		Ala	Ala	Leu	Glu	Glu	Val	Ala	Ala	Ser	Glu	Ala	Leu	Leu	Gly	Pro	Le
1504			50					55					60				
1505		Ser	Pro	Pro	Gly	Lys	Ser	Arg	Asp	Gly	Asn	Ala	Ser	Ala	Gly	Glu	Gln
1506		65				70					75						8
1507		Cys	Gln	Val	Phe	Arg	Ser	Pro	Pro	Ser	Glu	Val	Pro	Ser	Pro	Pro	Gln
<b>E--&gt; 1508</b>						<b>85</b>					<b>90</b>				<b>95</b>		
1509		Gln	Asp	Thr	Pro	Thr	Ser	Thr	Phe	Leu	Lys	Arg	Arg	Trp	Asp	Ser	Gln
1510					100					105					110		
1511		Val	Thr	Leu	Leu	Pro	Ser	Lys	Lys	Cys	Lys	Ser	Gln	Gln	Leu	Gln	Gln
1512				115					120					125			
1513		Ser	Val	Ser	Gln	Phe	Pro	Pro	Ser	Pro	Gly	Gly	Arg	Arg	Glu	Gly	Pr
1514			130					135					140				
1515		Trp	Ser	Ser	Leu	Gly	Ala	Gly	Gly	Pro	Ser	Ser	His	Ile	Ser	Ala	Ly
1516		145				150					155						16
1517		Tyr	Phe	Pro	Leu	Pro	Val	Gln	Pro	Ala	Cys	Pro	Cys	Thr	Ser	Leu	Gln
<b>E--&gt; 1518</b>						<b>165</b>					<b>170</b>				<b>175</b>		
1519		Ala	Gly	His	Arg	Pro	Gly	Arg	Cys	Val	Asp	Leu	Gln	Glu	Ser	Gln	Gln
1520					180					185					190		
1521		Val	Asp	His	Pro	Ala	Asn	Leu	Arg	Leu	Ser	Ser	Gly	Thr	Ser	Cys	Ar
1522				195					200					205			
1523		Arg	Gly	Leu	Asn	Pro	Thr	Pro	Val	Gln	Val	Arg	Ser	His	Glu	Ala	Se
1524			210					215				220					
1525		Ser	Gln	Val	Lys	Met	His	Gln	Thr	Val	Thr	Trp	Arg	Phe	Tyr	Thr	Ph
1526		225				230					235						24
1527		Leu	Asn	Phe	Gln	Gln	Leu	Gly	Ala	Cys	Leu	Leu					
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*Same*

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1530	<211>	149															
1531	<212>	PRT															
1532	<213>	homo sapiens															
1533	<400>	196															
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1535		1				5					10				15		
1536		Glu	Gly	Asp	Thr	Ile	Glu	Arg	Arg	Thr	Leu	Pro	Thr	Leu	Gln	Ala	Se
1537				20					25					30			
1538		Asp	Leu	Pro	Phe	Glu	Gly	Thr	Leu	Asp	Gly	Gly	Arg	Gly	Arg	Gly	Le
1539				35				40					45				
1540		Gly	Leu	Ser	Tyr	Ser	His	Glu	Leu	Leu	Ala	Ser	Thr	Asp	Ser	Ser	A.
1541			50				55					60					
1542		Ser	Pro	Pro	His	Lys	Ile	Thr	Gly	Thr	Asn	Ile	Phe	Asn	Phe	Ala	Ty
1543		65				70					75						2

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	1547				100					105					110		
	1548	Pro	Met	Ile	Phe	Phe	Phe	Val	Ile	Leu	Glu	Ile	Tyr	Phe	Phe	Ile	Il
	1549			115					120					125			
	1550	Leu	Ile	Ala	Asp	Val	Leu	Phe	Ile	Tyr	Leu	Ile	Cys	Ile	Arg	Ser	Le
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	1552	Asn	Asn	Arg	Lys	Leu											
	1553	145															

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	1556	<212>	PRT														
	1557	<213>	homo sapiens														
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	1560	1			5						10					15	
	1561	Pro	Leu	Trp	Val	Asn	His	Phe	Ser	Pro	Gly	Leu	Ser	Leu	Arg	Leu	Hi
	1562			20						25					30		
	1563	Gln	Leu	Val	Gly	Leu	Gln	Ala	Ser	Pro	Pro	Asp	Ser	Pro	His	Cys	Tr
	1564			35						40					45		
	1565	Ala	Thr	Leu	Asn	Leu	Lys	Phe	His	Cys	Pro	Ala	Pro	Pro	Thr	Pro	Th
	1566		50					55					60				
	1567	Pro	Lys	Phe	Pro	Lys	Glu	Met	Ser	Lys	Thr	His	Ala	His	Thr	Tyr	Il
	1568	65					70					75					8
	1569	His	Thr	Cys	Thr	Cys	Ala	His	Thr	Ser	Cys	Val	Thr	Thr	Gly	Gln	Gl
E-->	1570					85					90					95	
	1571	Asn	Ala	Ser	Leu	Arg	Ile	Pro	Gly	Pro	Gly	Pro	Gly	Val	Lys	Gly	Cy
	1572				100					105					110		
	1573	Ser	Gly	Thr	Leu	Pro	Pro	Asn	Leu	Leu	Gly	Gly	Pro	Pro	Ser	Val	Gl
	1574			115					120					125			
	1575	Ala	Gly	Leu	Gly	Val	Cys	Leu	Asp	Ser	Gln	Asp	Leu	Pro	Arg	Ser	
	1576		130					135					140				

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	1579	<212>	PRT														
	1580	<213>	homo sapiens														
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	1583	1				5					10					15	
	1584	Asp	Ala	Ser	Val	Tyr	Asn	Thr	Phe	Met	Ser	Arg	Ile	Arg	Ser	Arg	Hi
	1585			20						25					30		
	1586	Gln	Asp	Leu	Tyr	Thr	Val	Ala	Ala	Ala	Ile	Gly	Thr	Met	Ile	Gln	As
	1587			35						40				45			
	1588	Ile	Lys	Tyr	Ile	Ser	Ile	Tyr	Ile	Asn	Thr	Gln	Leu	Gly	Trp	Gly	Ar
	1589		50					55					60				
	1590	Met	Leu	Gly	Asp	Leu	Val	Ser	Pro	Ala	Glu	Gly	Leu	Gly	Gly	Arg	Gl
	1591	65					70					75					8

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	1594	Gly	Arg	Arg	Glu	Met	Gly	Lys	His	Ser	Leu	His	Thr	Leu	Met	Cys	Se
	1595				100					105					110		
	1596	His	Thr	His	Ala	Gln	Thr	Lys	His	Arg	His	Arg	Arg	Val	Ser	Asn	Se
	1597			115					120					125			
	1598	Leu	Thr	Leu	Ile	Gly	Lys	Gln	Ala	Trp	Asp	Ile	Pro	Leu	Gln		
	1599		130					135					140				

*same*

	1600	<210>	199														
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	1606	1				5					10					15	
	1607	Val	Gln	Tyr	Gly	Val	Lys	Asn	Asn	Thr	Thr	Phe	Leu	Glu	Cys	Ala	Pr
	1608				20					25					30		
	1609	Lys	Ser	Pro	Gln	Ala	Ser	Ile	Lys	Trp	Leu	Leu	Gln	Lys	Asp	Lys	As
	1610			35					40					45			
	1611	Arg	Arg	Lys	Glu	Val	Lys	Leu	Asn	Glu	Arg	Ile	Ile	Ala	Thr	Ser	Gl
	1612		50					55					60				
	1613	Gly	Leu	Leu	Ile	Arg	Ser	Val	Gln	Gly	Ser	Asp	Gln	Gly	Leu	Tyr	Hi
	1614	65				70					75						8
	1615	Cys	Ile	Ala	Thr	Glu	Asn	Ser	Phe	Lys	Gln	Thr	Ile	Ala	Lys	Ile	As
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	1617	Phe	Lys	Val	Leu	Asp	Ser	Glu	Met	Val	Ala	Val	Val	Thr	Asp	Lys	Tr
	1618				100					105					110		
	1619	Ser	Pro	Trp	Thr	Trp	Ala	Ser	Ser	Val	Arg	Ala	Leu	Pro	Phe	His	Pr
	1620			115					120					125			
	1621	Lys	Asp	Ile	Met	Gly	Ala	Phe	Ser	His	Ser	Glu	Met	Gln	Met	Ile	As
	1622		130					135					140				
	1623	Gln	Tyr	Cys	Lys	Asp	Thr	Arg	Gln	Gln	His	Gln	Gln	Gly	Asp	Glu	Se
	1624	145				150					155						16
	1625	Gln	Lys	Met	Arg	Gly	Asp	Tyr	Gly	Lys	Leu	Lys	Ala	Leu	Ile	Asn	Se
E-->	<b>1626</b>					<b>165</b>					<b>170</b>					<b>175</b>	
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	1628				180					185							

*same*

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	1631	<212>	PRT														
	1632	<213>	homo sapiens														
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	1635	1				5					10				15		
	1636	Gly	Ala	Ile	Ser	Ala	His	Cys	Ser	Thr	Val	Ser	Ala	His	Cys	Ser	Le
	1637			20						25					30		
	1638	Arg	Pro	Pro	Val	Phe	Lys	Arg	Phe	Ser	Cys	Leu	Ser	Leu	Leu	Ser	Se
	1639			35					40					45			

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*same*

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1640	Trp	Asp	Tyr	Arg	Cys	Ala	Pro	Pro	Arg	Pro	Ala	Asn	Phe	Cys	Ile	Ph
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1642	Ser	Arg	Asp	Gly	Val	Ser	Leu	Cys	Trp	Pro	Gly	Trp	Ser	Gln	Ser	Ar
1643	65					70					75					8
1644	Pro	Arg	Asp	Pro	Ala	His	Leu	Gly	Leu	Pro	Lys	Cys	Trp	Asp	Tyr	Ar
E--> 1645					85					90					95	
E--> 1646																

**Xxx***use Xaa, instead, AND explain in C2207-C2237**(see item 10 on Ena summary sheet)*

1647	<210>	201														
1648	<211>	250														
1649	<212>	PRT														
1650	<213>	homo sapiens														
1651	<400>	201														
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1653	1				5					10					15	
1654	Pro	Thr	Gly	Thr	Val	Gly	Asn	Thr	Ile	Met	Thr	Ser	Gln	Pro	Val	Pr
1655				20					25					30		
1656	Asn	Glu	Thr	Ile	Ile	Val	Leu	Pro	Ser	Asn	Val	Ile	Asn	Phe	Ser	Gl
1657			35					40					45			
1658	Ala	Glu	Lys	Pro	Glu	Pro	Thr	Asn	Gln	Gly	Gln	Asp	Ser	Leu	Lys	Ly
1659		50					55					60				
1660	His	Leu	His	Ala	Glu	Ile	Lys	Val	Ile	Gly	Thr	Ile	Gln	Ile	Leu	Cy
1661	65				70					75						8
1662	Gly	Met	Met	Val	Leu	Ser	Leu	Gly	Ile	Ile	Leu	Ala	Ser	Ala	Ser	Ph
E--> 1663					85					90					95	
1664	Ser	Pro	Asn	Phe	Thr	Gln	Val	Thr	Ser	Thr	Leu	Leu	Asn	Ser	Ala	Ty
1665				100					105					110		
1666	Pro	Phe	Ile	Gly	Pro	Phe	Phe	Phe	Ile	Ile	Ser	Gly	Ser	Leu	Ser	Il
1667				115					120					125		
1668	Ala	Thr	Glu	Lys	Arg	Leu	Thr	Lys	Leu	Leu	Val	His	Ser	Ser	Leu	Va
1669		130					135					140				
1670	Gly	Ser	Ile	Leu	Ser	Ala	Leu	Ser	Ala	Leu	Val	Gly	Phe	Ile	Ile	Le
1671		145				150					155					16
1672	Ser	Val	Lys	Gln	Ala	Thr	Leu	Asn	Pro	Ala	Ser	Leu	Gln	Cys	Glu	Le
E--> 1673					165					170					175	
1674	Asp	Lys	Asn	Asn	Ile	Pro	Thr	Arg	Ser	Tyr	Val	Ser	Tyr	Phe	Tyr	Hi
1675				180					185					190		
1676	Asp	Ser	Leu	Tyr	Thr	Thr	Asp	Cys	Tyr	Thr	Ala	Lys	Ala	Ser	Leu	Al
1677				195				200					205			
1678	Gly	Thr	Leu	Ser	Leu	Met	Leu	Ile	Cys	Thr	Leu	Leu	Glu	Phe	Cys	Le
1679		210					215					220				
1680	Ala	Val	Leu	Thr	Ala	Val	Leu	Arg	Trp	Lys	Gln	Ala	Tyr	Ser	Asp	Ph
1681		225				230					235					24
1682	Pro	Gly	Val	Ser	Val	Leu	Ala	Gly	Phe	Thr						
E--> 1683					245					250						

1684	<210>	202
1685	<211>	104
1686	<212>	PRT
1687	<213>	homo sapiens

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07

Input Set: I646569.RAW

*same*

1688	<400>	202															
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1690		1				5					10					15	
1691		Pro	Arg	Gln	Gln	Gln	Arg	Gln	Gln	Gln	Thr	Phe	Gly	Ile	Leu	Phe	Se
1692					20					25					30		
1693		Thr	His	Val	Leu	Ile	Ile	His	Leu	Ile	Ile	Phe	Leu	Val	Glu	Lys	Le
1694				35					40					45			
1695		Gln	Ile	Ser	Leu	Phe	Asn	Ile	Tyr	Ile	Gln	Phe	Asn	Lys	Pro	Leu	Al
1696			50					55					60				
1697		Ser	Tyr	Leu	Phe	Ser	His	Leu	Arg	Tyr	Phe	Phe	Pro	Pro	His	Leu	Al
1698		65					70					75					8
1699		Pro	Val	Pro	Pro	Phe	Leu	Phe	Ser	Leu	Cys	Lys	Arg	Lys	Tyr	Leu	Th
E--> 1700						85					90					95	
1701		Tyr	Leu	Gly	Pro	Thr	Ser	Ile	Met								
1702					100												

*same*

1703	<210>	203															
1704	<211>	93															
1705	<212>	PRT															
1706	<213>	homo sapiens															
1707	<400>	203															
1708		His	Lys	Lys	Asn	Phe	Trp	Gln	Ile	Phe	Ile	Gln	Ile	Ala	Cys	Leu	Gl
1709		1				5					10					15	
1710		Trp	Gln	Ile	Ser	Gln	His	Phe	Ser	Leu	Phe	Cys	Leu	Cys	Leu	Ser	Le
1711					20					25					30		
1712		Cys	Ile	Phe	Leu	Glu	Arg	Lys	Leu	Asn	Ala	Phe	Asn	Val	Leu	Ile	Il
1713				35					40					45			
1714		Thr	Leu	Leu	Lys	Leu	Asp	Pro	Asn	Met	Leu	Asn	Ile	Ser	Ser	Cys	Ly
1715			50				55					60					
1716		Gly	Arg	Arg	Gly	Arg	Glu	Glu	Gln	Gly	Gln	Gly	Gly	Glu	Glu	Lys	As
1717		65					70					75					8
1718		Thr	Ser	Gly	Glu	Arg	Thr	Ser	Asn	Leu	Gln	Glu	Ala	Tyr			
E--> 1719						85					90						

*same*

1720	<210>	204															
1721	<211>	113															
1722	<212>	PRT															
1723	<213>	homo sapiens															
1724	<400>	204															
1725		Arg	Pro	Lys	Pro	Gly	His	Pro	Leu	Tyr	Ser	Lys	Tyr	Met	Arg	Gly	As
1726		1				5					10					15	
1727		Val	Leu	Val	Met	Leu	Lys	Gln	Thr	Glu	Asn	Asn	Tyr	Leu	Glu	Cys	Gl
1728					20					25					30		
1729		Lys	Gly	Glu	Asp	Thr	Gly	Arg	Val	His	Leu	Ser	Gln	Met	Lys	Ile	Il
1730				35					40					45			
1731		Thr	Pro	Leu	Asp	Glu	His	Leu	Arg	Ser	Arg	Pro	Asn	Asp	Pro	Ser	Hi
1732			50				55					60					
1733		Ala	Gln	Lys	Pro	Val	Asp	Ser	Gly	Ala	Pro	His	Ala	Val	Val	Leu	Hi
1734		65					70					75					8
1735		Asp	Phe	Pro	Ala	Glu	Gln	Val	Asp	Asp	Leu	Asn	Leu	Thr	Ser	Gly	Gl

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
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Input Set: I646569.RAW

E--> 1736  
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 1738 100 105 110  
 1739 Leu

1740 <210> 205  
 1741 <211> 225  
 1742 <212> PRT  
 1743 <213> homo sapiens  
 1744 <400> 205  
 1745 Thr Ser Leu Leu Glu Lys Leu Val Tyr Leu Leu Glu Lys Ile Asp Th  
 1746 1 5 10 15  
 1747 Asp Trp Tyr Arg Gly Asn Cys Arg Asn Gln Ile Gly Ile Phe Pro Al  
 1748 20 25 30  
 1749 Asn Tyr Val Lys Val Ile Ile Asp Ile Pro Glu Gly Gly Asn Gly Ly  
 1750 35 40 45  
 1751 Arg Glu Cys Val Ser Ser His Cys Val Lys Gly Ser Arg Cys Val Al  
 1752 50 55 60  
 1753 Arg Phe Glu Tyr Ile Gly Glu Gln Lys Asp Glu Leu Ser Phe Ser Gl  
 1754 65 70 75 8  
 1755 Gly Glu Ile Ile Ile Leu Lys Glu Tyr Val Asn Glu Glu Trp Ala Ar  
 E--> 1756 85 90 95  
 1757 Gly Glu Val Arg Gly Arg Thr Gly Ile Phe Pro Leu Asn Phe Val Gl  
 1758 100 105 110  
 1759 Pro Val Glu Asp Tyr Pro Thr Ser Gly Ala Asn Val Leu Ser Thr Ly  
 1760 115 120 125  
 1761 Val Pro Leu Lys Thr Lys Lys Glu Asp Ser Gly Ser Asn Ser Gln Va  
 1762 130 135 140  
 1763 Asn Ser Leu Pro Ala Glu Trp Cys Glu Ala Leu His Ser Phe Thr Al  
 1764 145 150 155 16  
 1765 Glu Thr Ser Asp Asp Leu Ser Phe Lys Arg Gly Asp Arg Ile Gln Il  
 E--> 1766 165 170 175  
 1767 Leu Glu Arg Leu Asp Ser Asp Trp Cys Arg Gly Arg Leu Gln Asp Ar  
 1768 180 185 190  
 1769 Glu Gly Ile Phe Pro Ala Val Phe Val Arg Pro Cys Pro Ala Glu Al  
 1770 195 200 205  
 1771 Lys Ser Met Leu Ala Ile Val Pro Lys Gly Gln Glu Gly Gln Ser Le  
 1772 210 215 220  
 1773 Ile  
 1774 225

1775 <210> 206  
 1776 <211> 105  
 1777 <212> PRT  
 1778 <213> homo sapiens  
 1779 <400> 206  
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 1781 1 5 10 15  
 1782 Arg Val Thr Gln Thr Cys Gln Leu Ser Glu Ser Leu Val Val Lys P  
 1783 20 25 30

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07

*same*  
 Input Set: **I646569.RAW**

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1786	Gly	Ile	Cys	Val	Ile	Thr	Val	Leu	Leu	Pro	Arg	His	Gly	Val	Asp	As
1787		50					55					60				
1788	Lys	Ile	Pro	Leu	Gln	Ser	Thr	Gly	Val	Ser	Val	Arg	Leu	Val	Leu	Gl
1789	65					70					75					8
1790	Lys	Ala	Ala	His	Trp	Glu	Trp	Gly	Gly	Ala	Cys	Gly	Lys	Pro	Asp	Cy
<b>E--&gt; 1791</b>					<b>85</b>					<b>90</b>					<b>95</b>	
1792	Gly	Glu	Lys	Leu	Gly	Glu	Asn	Gly	Ser							
1793				100					105							

1794	<210>	208														
1795	<211>	581														
1796	<212>	PRT														
1797	<213>	homo sapiens														
1798	<400>	208														
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1801	Leu	Gln	Asp	Cys	Ile	Arg	His	Cys	Asn	Asn	Gly	Ile	Pro	Glu	Asp	Se
1802				20					25					30		
1803	Lys	Val	Glu	Gly	Pro	Ala	Phe	Thr	Asp	Ala	Ile	Arg	Met	Tyr	Arg	Gl
1804			35					40					45			
1805	Ser	Lys	Glu	Leu	Tyr	Gly	Thr	Trp	Glu	Met	Leu	Cys	Gly	Asn	Glu	Va
1806		50					55				60					
1807	Gln	Ile	Leu	Ser	Asn	Leu	Val	Met	Glu	Glu	Leu	Gly	Pro	Glu	Leu	Ly
1808	65					70					75					8
1809	Ala	Glu	Leu	Gly	Pro	Arg	Leu	Lys	Gly	Lys	Pro	Gln	Glu	Arg	Gln	Ar
<b>E--&gt; 1810</b>				<b>85</b>					<b>90</b>					<b>95</b>		
1811	Gln	Trp	Ile	Gln	Ile	Ser	Asp	Ala	Val	Tyr	His	Met	Val	Tyr	Glu	Gl
1812				100					105					110		
1813	Ala	Lys	Ala	Arg	Phe	Glu	Glu	Val	Leu	Ser	Lys	Val	Gln	Gln	Val	Gl
1814			115					120					125			
1815	Pro	Ala	Met	Gln	Ala	Val	Ile	Arg	Thr	Asp	Met	Asp	Gln	Ile	Ile	Th
1816		130					135				140					
1817	Ser	Lys	Glu	His	Leu	Ala	Ser	Lys	Ile	Arg	Ala	Phe	Ile	Leu	Pro	Ly
1818	145					150					155					16
1819	Ala	Glu	Val	Cys	Val	Arg	Asn	His	Val	Gln	Pro	Tyr	Ile	Pro	Ser	Il
<b>E--&gt; 1820</b>				<b>165</b>					<b>170</b>				<b>175</b>			
1821	Leu	Glu	Ala	Leu	Met	Val	Pro	Thr	Ser	Gln	Gly	Phe	Thr	Glu	Val	Ar
1822				180					185					190		
1823	Asp	Val	Phe	Phe	Lys	Glu	Val	Thr	Asp	Met	Asn	Leu	Asn	Val	Ile	As
1824			195					200					205			
1825	Glu	Gly	Gly	Ile	Asp	Lys	Leu	Gly	Glu	Tyr	Met	Glu	Lys	Leu	Ser	Ar
1826		210					215				220					
1827	Leu	Ala	Tyr	His	Pro	Leu	Lys	Met	Gln	Ser	Cys	Tyr	Glu	Lys	Met	Gl
1828	225					230					235					24
1829	Ser	Leu	Arg	Leu	Asp	Gly	Leu	Gln	Gln	Arg	Phe	Asp	Val	Ser	Ser	Th
<b>E--&gt; 1830</b>				<b>245</b>					<b>250</b>					<b>255</b>		
1831	Ser	Val	Phe	Lys	Gln	Arg	Ala	Gln	Ile	His	Met	Arg	Glu	Gln	Met	As
1832				260					265					270		



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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
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name																	Input Set: I646569.RAW																
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	1834			275					280					285																			
	1835	Gly	Pro	Thr	Lys	Glu	Glu	Leu	Cys	Lys	Ser	Ile	Gln	Arg	Val	Leu	Gl																
	1836		290					295					300																				
	1837	Arg	Val	Leu	Lys	Lys	Tyr	Asp	Tyr	Asp	Ser	Ser	Ser	Val	Arg	Lys	Ar																
	1838	305					310					315					32																
	1839	Phe	Phe	Arg	Glu	Ala	Leu	Leu	Gln	Ile	Ser	Ile	Pro	Phe	Leu	Leu	Ly																
	1840					325					330					335																	
	1841	Lys	Leu	Ala	Pro	Thr	Cys	Lys	Ser	Glu	Leu	Pro	Arg	Phe	Gln	Glu	Le																
	1842			340						345					350																		
1843	Ile	Phe	Glu	Asp	Phe	Ala	Arg	Phe	Ile	Leu	Val	Glu	Asn	Thr	Tyr	Gl																	
1844			355					360					365																				
1845	Glu	Val	Val	Leu	Gln	Thr	Val	Met	Lys	Asp	Ile	Leu	Gln	Ala	Val	Ly																	
1846		370					375					380																					
1847	Glu	Ala	Ala	Val	Gln	Arg	Lys	His	Asn	Leu	Tyr	Arg	Asp	Ser	Met	Va																	
1848	385					390					395					40																	
1849	Met	His	Asn	Ser	Asp	Pro	Asn	Leu	His	Leu	Leu	Ala	Glu	Gly	Ala	Pr																	
E-->	1850				405					410					415																		
1851	Ile	Asp	Trp	Gly	Glu	Glu	Tyr	Ser	Asn	Ser	Gly	Gly	Gly	Gly	Gly	Pr																	
1852			420						425					430																			
1853	Ala	Pro	Ala	Pro	Arg	Ser	Gln	Pro	Pro	Ser	Arg	Lys	Ser	Asp	Gly	Al																	
1854			435					440					445																				
1855	Pro	Ser	Arg	Trp	Ser	Leu	Trp	Ser	Arg	Met	Arg	Arg	Trp	Gly	Cys	Pr																	
1856		450					455					460																					
1857	Leu	Arg	Leu	Ala	Leu	Ser	His	His	His	Leu	Arg	Pro	Arg	Thr	Val	Se																	
1858	465					470					475					48																	
1859	Leu	Arg	Ser	Glu	Ala	Cys	Trp	Pro	Lys	Val	Cys	Gly	Leu	Arg	Ala	Pr																	
E-->	1860				485					490					495																		
1861	His	Gln	Pro	Ala	Pro	Cys	Ser	Thr	Gly	Pro	Pro	Leu	Gly	Arg	Val	Pr																	
1862			500						505					510																			
1863	Ser	Leu	Arg	Pro	Pro	Pro	Arg	Pro	Pro	Arg	Arg	Leu	Pro	His	Pro	Se																	
1864			515					520					525																				
1865	Ser	Ile	Ser	Cys	Leu	Glu	Arg	Leu	Trp	Thr	Leu	Gly	Pro	Pro	Ser	Pr																	
1866		530					535					540																					
1867	Ala	Thr	Arg	Arg	Leu	Glu	Ser	Arg	Cys	Pro	Ala	Pro	Ala	Ala	Thr	Pr																	
1868	545					550					555					56																	
1869	Pro	Ser	Thr	Pro	Pro	Pro	Arg	Thr	Val	Gln	Gly	Cys	Arg	Leu	Ser	Se																	
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1871	Arg	Pro	Val	Gly	Pro																												
1872				580																													

1873 &lt;210&gt; 209

1874 &lt;211&gt; 466

1875 &lt;212&gt; PRT

1876 &lt;213&gt; homo sapiens

1877 &lt;400&gt; 209

1878 Pro Gln Arg Ala Ala Pro Pro Pro His Pro Gly Pro Gln Arg Pro P

1879 1 5 10 15

1880 Ala Trp Arg Ala Val Ala Phe Pro Arg Gly Trp Leu Thr Pro Gly C

1881 20 25 30

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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/646,569**

 DATE: 12/14/2000  
 TIME: 09:51:07
*same*Input Set: **I646569.RAW**

	1882	Trp	Gly	Trp	Ala	Ala	Ala	Pro	Ala	Ala	Val	Ala	Val	Leu	Leu	Ala	Pr
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	1885		50					55					60				
	1886	Val	His	Asp	His	Ala	Val	Pro	Val	Glu	Val	Val	Leu	Pro	Leu	His	Ar
	1887		65				70					75					8
	1888	Gly	Leu	Leu	His	Ser	Leu	Gln	Asp	Val	Leu	His	Asp	Gly	Leu	Gln	Hi
<b>E--&gt;</b>	<b>1889</b>					<b>85</b>					<b>90</b>					<b>95</b>	
	1890	His	Leu	Leu	Val	Arg	Val	Phe	His	Gln	Asp	Glu	Pro	Gly	Lys	Val	Le
	1891				100					105					110		
	1892	Glu	Asp	Gln	Leu	Leu	Glu	Pro	Gly	Gln	Leu	Arg	Leu	Ala	Gly	Arg	Gl
	1893			115					120					125			
	1894	Gln	Leu	Leu	Glu	Gln	Glu	Arg	Asp	Ala	Asp	Leu	Gln	Gln	Arg	Leu	Pr
	1895		130					135					140				
	1896	Glu	Glu	Pro	Leu	Pro	His	Arg	Ala	Ala	Val	Val	Val	Val	Phe	Leu	Gl
	1897		145				150					155					16
	1898	His	Pro	Leu	Gln	Asp	Pro	Leu	Asp	Gly	Leu	Ala	Gln	Leu	Leu	Leu	Gl
<b>E--&gt;</b>	<b>1899</b>					<b>165</b>					<b>170</b>					<b>175</b>	
	1900	Gly	Pro	Leu	Pro	Gln	Leu	Leu	Val	Gln	Glu	Gly	Leu	Glu	Arg	Ile	Hi
	1901				180					185					190		
	1902	Gly	Ile	Val	His	Leu	Leu	Pro	His	Val	Asp	Leu	Gly	Ser	Leu	Leu	Gl
	1903			195					200					205			
	1904	His	Gly	Arg	Ala	Gly	His	Ile	Lys	Ser	Leu	Leu	Gln	Pro	Val	Gln	Se
	1905		210					215					220				
	1906	Gln	Arg	Leu	His	Leu	Leu	Ile	Ala	Ala	Leu	His	Leu	Gln	Gly	Val	Va
	1907		225				230					235					24
	1908	Arg	Gln	Pro	Gly	Gln	Leu	Leu	His	Val	Leu	Ala	Gln	Leu	Val	Asn	Al
<b>E--&gt;</b>	<b>1909</b>					<b>245</b>					<b>250</b>					<b>255</b>	
	1910	Ala	Leu	Val	Asp	Asp	Val	Gln	Val	His	Val	Arg	Asp	Leu	Leu	Glu	Gl
	1911			260						265					270		
	1912	Asp	Ile	Ser	His	Leu	Ser	Glu	Ala	Leu	Ala	Gly	Gly	Asp	His	Gln	Gl
	1913			275					280					285			
	1914	Leu	Gln	Asp	Gly	Trp	Asp	Val	Gly	Leu	Asp	Met	Val	Pro	His	Ala	Hi
	1915		290					295					300				
	1916	Leu	Cys	Leu	Gly	Glu	Asp	Glu	Gly	Ser	Asp	Leu	Ala	Gly	Lys	Val	Le
	1917		305				310					315					32
	1918	Leu	Gly	Gly	Asp	Asn	Leu	Val	His	Val	Ser	Ser	Asp	Asp	Gly	Leu	Hi
<b>E--&gt;</b>	<b>1919</b>					<b>325</b>					<b>330</b>					<b>335</b>	
	1920	Gly	Arg	Leu	His	Leu	Leu	His	Leu	Gly	Gln	His	Leu	Leu	Glu	Ala	Ar
	1921			340						345					350		
	1922	Leu	Gly	Leu	Leu	Val	His	His	Val	Val	His	Gly	Val	Arg	Asp	Leu	As
	1923			355					360					365			
	1924	Pro	Leu	Pro	Leu	Pro	Leu	Leu	Arg	Phe	Pro	Leu	Gln	Pro	Arg	Ala	Gl
	1925		370					375					380				
	1926	Leu	Cys	Leu	Gln	Leu	Arg	Ala	Gln	Leu	Leu	His	His	Gln	Val	Ala	Gl
	1927		385				390					395					40
	1928	Asp	Leu	His	Leu	Val	Pro	Thr	Gln	His	Leu	Pro	Gly	Ala	Val	Gln	Le
<b>E--&gt;</b>	<b>1929</b>					<b>405</b>					<b>410</b>					<b>415</b>	
	1930	Leu	Gly	Leu	Ser	Val	His	Ala	Asp	Gly	Ile	Cys	Glu	Arg	Arg	Ala	Le
	1931				420					425				430			

## PATENT APPLICATION US/09/646,569

TIME: 09:51:07

same

Input Set: I646569.RAW

[illegible]

Input Set: I646569.RAW

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23	E Invalid/Missing Amino Acid Numbering	85
33	E Invalid/Missing Amino Acid Numbering	165
43	E Invalid/Missing Amino Acid Numbering	245
53	E Invalid/Missing Amino Acid Numbering	325
74	E Invalid/Missing Amino Acid Numbering	85
95	E Invalid/Missing Amino Acid Numbering	85
105	E Invalid/Missing Amino Acid Numbering	165
115	E Invalid/Missing Amino Acid Numbering	245
125	E Invalid/Missing Amino Acid Numbering	325
135	E Invalid/Missing Amino Acid Numbering	405
152	E Invalid/Missing Amino Acid Numbering	85
162	E Invalid/Missing Amino Acid Numbering	165
172	E Invalid/Missing Amino Acid Numbering	245
197	E Invalid/Missing Amino Acid Numbering	85
207	E Invalid/Missing Amino Acid Numbering	165
228	E Invalid/Missing Amino Acid Numbering	85
238	E Invalid/Missing Amino Acid Numbering	165
248	E Invalid/Missing Amino Acid Numbering	245
265	E Invalid/Missing Amino Acid Numbering	85
275	E Invalid/Missing Amino Acid Numbering	165
294	E Invalid/Missing Amino Acid Numbering	85
304	E Invalid/Missing Amino Acid Numbering	165
314	E Invalid/Missing Amino Acid Numbering	245
337	E Invalid/Missing Amino Acid Numbering	85
355	E Invalid/Missing Amino Acid Numbering	85
376	E Invalid/Missing Amino Acid Numbering	85
401	E Invalid/Missing Amino Acid Numbering	85
411	E Invalid/Missing Amino Acid Numbering	165
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474	E Invalid/Missing Amino Acid Numbering	85
484	E Invalid/Missing Amino Acid Numbering	165
494	E Invalid/Missing Amino Acid Numbering	245
504	E Invalid/Missing Amino Acid Numbering	325
514	E Invalid/Missing Amino Acid Numbering	405
539	E Invalid/Missing Amino Acid Numbering	85
556	E Invalid/Missing Amino Acid Numbering	85
566	E Invalid/Missing Amino Acid Numbering	165
576	E Invalid/Missing Amino Acid Numbering	245
602	E Invalid/Missing Amino Acid Numbering	85
627	E Invalid/Missing Amino Acid Numbering	85
650	E Invalid/Missing Amino Acid Numbering	85
660	E Invalid/Missing Amino Acid Numbering	165
680	E Invalid/Missing Amino Acid Numbering	85
690	E Invalid/Missing Amino Acid Numbering	165
700	E Invalid/Missing Amino Acid Numbering	245
717	E Invalid/Missing Amino Acid Numbering	85
727	E Invalid/Missing Amino Acid Numbering	165
750	E Invalid/Missing Amino Acid Numbering	85
767	E Invalid/Missing Amino Acid Numbering	85

Input Set: I646569.RAW

Line	? Error/Warning	Original Text
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787	E Invalid/Missing Amino Acid Numbering	245
797	E Invalid/Missing Amino Acid Numbering	325
818	E Invalid/Missing Amino Acid Numbering	85
837	E Invalid/Missing Amino Acid Numbering	85
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903	E Invalid/Missing Amino Acid Numbering	85
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938	E Invalid/Missing Amino Acid Numbering	85
948	E Invalid/Missing Amino Acid Numbering	165
958	E Invalid/Missing Amino Acid Numbering	245
968	E Invalid/Missing Amino Acid Numbering	325
991	E Invalid/Missing Amino Acid Numbering	85
1009	E Invalid/Missing Amino Acid Numbering	85
1019	E Invalid/Missing Amino Acid Numbering	165
1036	E Invalid/Missing Amino Acid Numbering	85
1055	E Invalid/Missing Amino Acid Numbering	85
1080	E Invalid/Missing Amino Acid Numbering	85
1090	E Invalid/Missing Amino Acid Numbering	165
1100	E Invalid/Missing Amino Acid Numbering	245
1119	E Invalid/Missing Amino Acid Numbering	85
1129	E Invalid/Missing Amino Acid Numbering	165
1139	E Invalid/Missing Amino Acid Numbering	245
1149	E Invalid/Missing Amino Acid Numbering	325
1159	E Invalid/Missing Amino Acid Numbering	405
1184	E Invalid/Missing Amino Acid Numbering	85
1194	E Invalid/Missing Amino Acid Numbering	165
1204	E Invalid/Missing Amino Acid Numbering	245
1225	E Invalid/Missing Amino Acid Numbering	85
1246	E Invalid/Missing Amino Acid Numbering	85
1269	E Invalid/Missing Amino Acid Numbering	85
1289	E Invalid/Missing Amino Acid Numbering	85
1307	E Invalid/Missing Amino Acid Numbering	85
1317	E Invalid/Missing Amino Acid Numbering	165
1327	E Invalid/Missing Amino Acid Numbering	245
1337	E Invalid/Missing Amino Acid Numbering	325
1347	E Invalid/Missing Amino Acid Numbering	405
1368	E Invalid/Missing Amino Acid Numbering	85
1378	E Invalid/Missing Amino Acid Numbering	165
1388	E Invalid/Missing Amino Acid Numbering	245
1398	E Invalid/Missing Amino Acid Numbering	325
1415	E Invalid/Missing Amino Acid Numbering	85
1425	E Invalid/Missing Amino Acid Numbering	165
1448	E Invalid/Missing Amino Acid Numbering	85
1458	E Invalid/Missing Amino Acid Numbering	165
1468	E Invalid/Missing Amino Acid Numbering	245
1491	E Invalid/Missing Amino Acid Numbering	85

Input Set: I646569.RAW

Line	? Error/Warning	Original Text
1508	E Invalid/Missing Amino Acid Numbering	85
1518	E Invalid/Missing Amino Acid Numbering	165
1528	E Invalid/Missing Amino Acid Numbering	245
1545	E Invalid/Missing Amino Acid Numbering	85
1570	E Invalid/Missing Amino Acid Numbering	85
1593	E Invalid/Missing Amino Acid Numbering	85
1616	E Invalid/Missing Amino Acid Numbering	85
1626	E Invalid/Missing Amino Acid Numbering	165
1645	E Invalid/Missing Amino Acid Numbering	85
1646	E Wrong Amino Acid Designator	Xxx
1663	E Invalid/Missing Amino Acid Numbering	85
1673	E Invalid/Missing Amino Acid Numbering	165
1683	E Invalid/Missing Amino Acid Numbering	245
1700	E Invalid/Missing Amino Acid Numbering	85
1719	E Invalid/Missing Amino Acid Numbering	85
1736	E Invalid/Missing Amino Acid Numbering	85
1756	E Invalid/Missing Amino Acid Numbering	85
1766	E Invalid/Missing Amino Acid Numbering	165
1791	E Invalid/Missing Amino Acid Numbering	85
1810	E Invalid/Missing Amino Acid Numbering	85
1820	E Invalid/Missing Amino Acid Numbering	165
1830	E Invalid/Missing Amino Acid Numbering	245
1840	E Invalid/Missing Amino Acid Numbering	325
1850	E Invalid/Missing Amino Acid Numbering	405
1860	E Invalid/Missing Amino Acid Numbering	485
1870	E Invalid/Missing Amino Acid Numbering	565
1889	E Invalid/Missing Amino Acid Numbering	85
1899	E Invalid/Missing Amino Acid Numbering	165
1909	E Invalid/Missing Amino Acid Numbering	245
1919	E Invalid/Missing Amino Acid Numbering	325
1929	E Invalid/Missing Amino Acid Numbering	405